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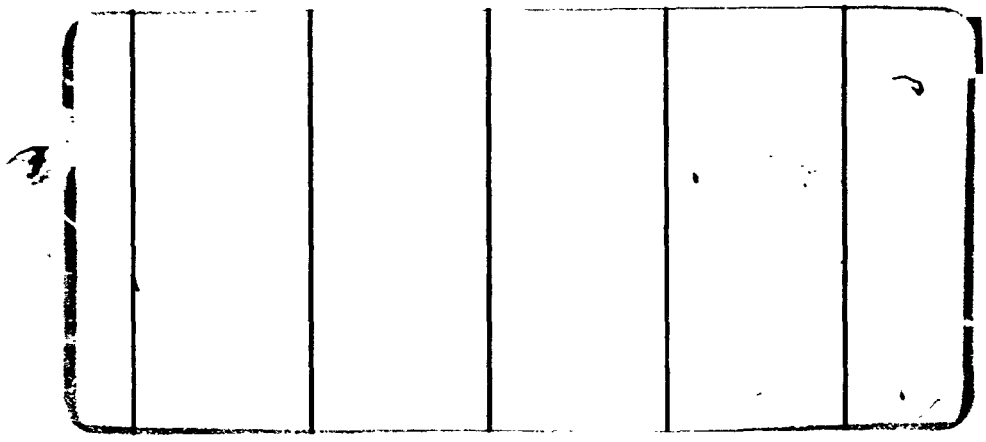

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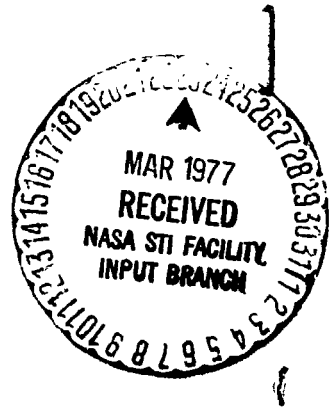

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FLASH EVAPORATOR SYSTEMS TEST

FINAL REPORT

REPORT NO. 2-53230/6R-3353

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Submitted by

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1.0 SUMMARY

A flash evaporator heat rejection system representative of that proposed for the Space Shuttle Orbiter underwent extensive system testing at the NASA Johnson Space Center (JSC) to determine its operational suitability and to establish system performance/operational characteristics for use in the Shuttle system. Over 116 hours of system testing were conducted at NASA/JSC Chamber A during the period of 22 April thru 3 May 1975 to obtain the desired data. The efforts of the Vought Corporation in test article fabrication and in real time test support are reported herein. This effort was conducted under NASA contract NAS9-10534.

The flash evaporator system test articles consisted of the prototype 2 and 3 units fabricated under contract NAS9-13506 and an exhaust duct system designed to simulate the Shuttle configuration. The prototype 2 and 3 units were representative of the design, construction and operation of the proposed Shuttle baseline flash evaporator system. The evaporators and exhaust ducts were configured to simulate both the top-off and re-entry Shuttle system operational conditions.

The test was conducted in three sequences during the two weeks of testing: sequence 1 obtained parametric performance/operation data for the evaporators in the top-off configuration; sequence 2 primarily obtained parametric duct performance data (top-off configuration); and sequence 3 tested the evaporators in the re-entry configuration with varying system parameters.

During the tests the evaporator system demonstrated its suitability to meet the Shuttle requirements by: a) efficient operation with 90 to 95% water evaporation efficiency (greater efficiency is expected for identified flight design changes); b) control of outlet temperature to $40° \pm 2°F$ for partial heat load operation; c) stability of control system for rapid changes in Freon inlet temperatures; d) repeated dormant-to-active device operation without any startup procedures. The only test article operation anomoly was a loss of cooling due to ice buildup in the evaporators from an unheated instrumentation port during test sequence 1. This was corrected, and no further anomolous operation was experienced.

Considerable evaporator system performance data were obtained for the wide range of variables shown in Table 1-1. Of importance, the test

TABLE 1-1
RANGE OF VARIABLES TESTED

CHAMBER PRESSURE	TOP-OFF CONFIG. 10^{-5} TORR & REENTRY PROFILE	REENTRY CONFIG. 10^{-5} TORR & REENTRY PROFILE
FEEDWATER SUPPLY PRES., PSIA	16.4 TO 32.0	39.7 TO 49.6
FEEDWATER INLET TEMP., °F	45.0 TO 131.3	50.7 TO 124.8
FEEDWATER FLOWRATE, LB/HR	13.8 TO 15.8 PER EVAP.*	48.6 TO 50.8 PER EVAP.
FREON INLET TEMP., °F	41.9 TO 73.1	134.1 TO 159.6
FREON FLOWRATE, LB/HR	2251 TO 2764	2499 TO 2764
DUCT HEATERS, WATTS	239.4 TO 554.2	0 TO 496.3
NOZZLE HEATERS, WATTS	0 TO 88.6	—

* FULL-ON EVAPORATOR FLOW RANGE

data showed that the performance was a strong function of feedwater temperature with decreasing performance obtained for increasing feedwater temperatures. This is due to high water vapor pressures (as temperature increases) causing disintegration of the spray into a fine mist which in turn is carried into the exhaust duct. (A planned anticarryover device in a flight design will minimize this carryover). Additionally, the test results demonstrated the lack of dependence of performance due to significant variation in Freon flowrate, Freon temperature, duct temperature, and feedwater pressure.

The design margin of the flash evaporator units was also demonstarted by the capability to maintain outlet temperature control at much higher operating pressures than the 3.8 mmHg design conditions. The top-off evaporator configuration operated at 5.2 mmHg while maintaining control, and the re-entry evaporators operated with pressures up to 10 mmHg. These results will provide future design data for system design optimization.

Duct performance data was obtained for a wide variety of transient and steady state water vapor flow rates and for a number of water carryover conditions. The basic top-off duct/nozzle designed and analyzed by NASA resulted in operating pressures considerably below the desired design conditions (3.0 mmHg versus 3.8 mmHg). Further duct/nozzle analysis/design refinement is recommended. Performance conditions with ice formation in the vapor flow and ice formation on duct walls were obtained. Analyses and explanation of these data along with exhaust nozzle performance were not part of this effort but the subject of separate NASA activity.

Improvements in instrumentation accuracy and problems in the ACE's* data aquisition system were identified during the test. The accuracy of Freon temperature and flow measurements resulted in performance inaccuracies of 5 to 7% for test sequences 1 and 2, and of 2 to 3% for test sequence 3. Future testing should concentrate on instrumentation accuracy in order to get higher accuracy in performance data.

Detailed discussion of the test articles, instrumentation, and test results are contained in the Sections that follow.

*ACE - Automatic Checkout Equipment

2.0 INTRODUCTION/BACKGROUND

2.1 System Definition

The active thermal control system for the Shuttle includes a flash evaporator expendable heat sink system to provide primary heat rejection during ascent/re-entry flight phases above 100,000 ft., and to augment the radiator system during orbital operation. The water expendable used on the Shuttle is launched in supply tanks for the ascent/re-entry flight phases, and is generated for orbital operation by the fuel cell system. The location of the flash evaporator system in the Shuttle is shown in Figure 2-1.

The proposed Shuttle configuration consists of a total of four flash evaporator units - two in each of the Freon coolant loops. As shown schematically in Figure 2-2, each of the two Orbiter Freon loops has an on-orbit, low load (top-off) evaporator, and a high load (ascent/re-entry) evaporator which is used in conjunction with the top-off evaporator to provide cooling during ascent and re-entry flight phases. The top-off evaporators are sized to cool the Freon flow from 60° to 40°F, while the ascent/re-entry evaporators cool the Freon from a maximum of 132°F to 60°F. Thus, the two types of flight evaporators have different heat load requirements, as well as different control temperatures.

Two duct systems are required to exhaust water from the flash evaporator system into the space environment as shown in Figure 2-3. The on-orbit duct system (top-off duct system) consists of a duct configuration with two non-propulsive exits on opposing sides of the Orbiter vehicle to minimize the resulting thrust created by the water vapor leaving the Shuttle. A supersonic nozzle is located at each exit of the top-off duct to maintain the flash evaporator chamber pressure at a satisfactory level and to minimize contamination of the payload bay. The second duct system (the ascent/re-entry duct system) is used to exhaust the larger quantities of water from the high temperature units during Shuttle ascent and re-entry, and contains only one exit since a reduction of evaporator thrust is not required for this mission phase.

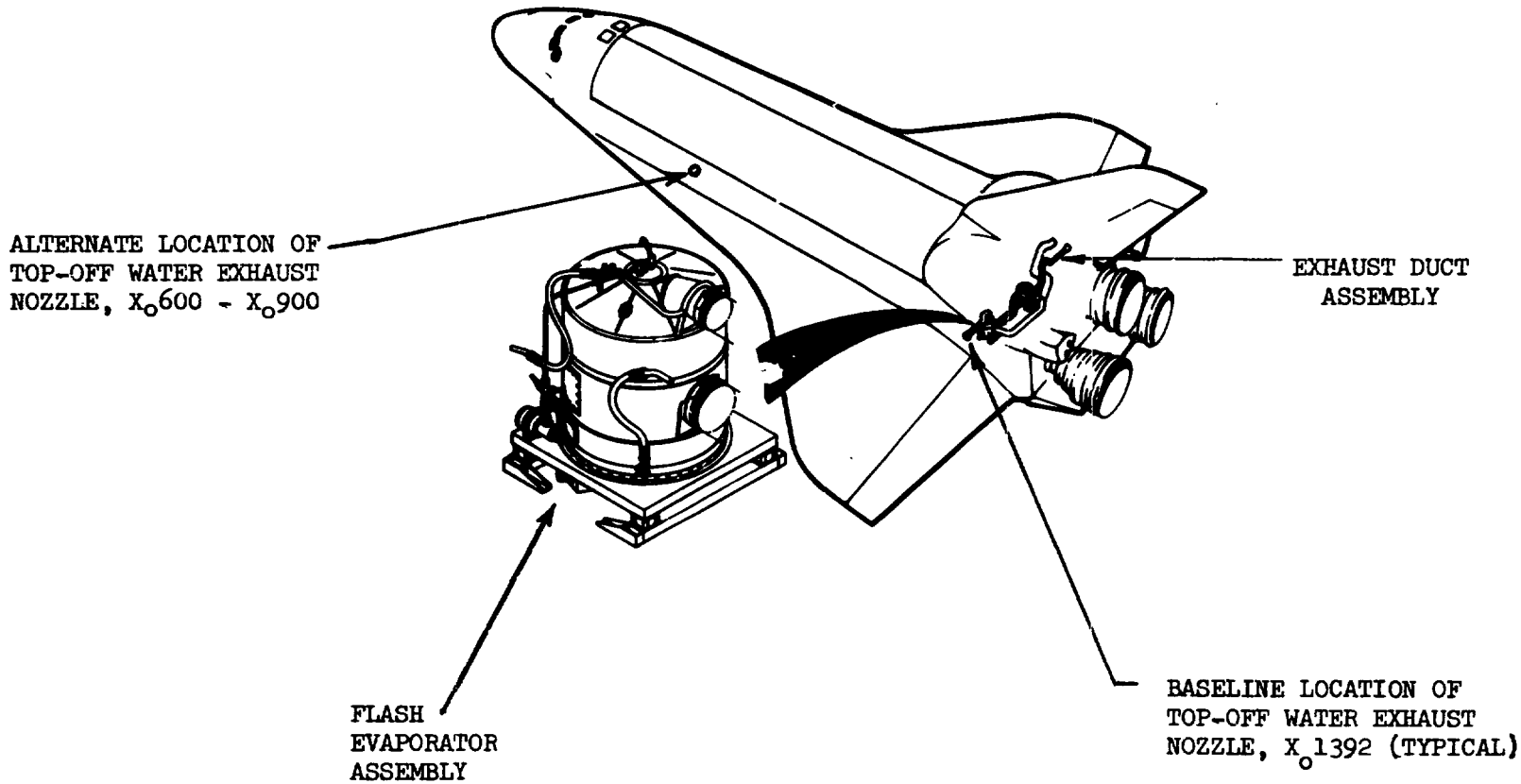


FIGURE 2-1 SHUTTLE FLASH EVAPORATOR INSTALLATION

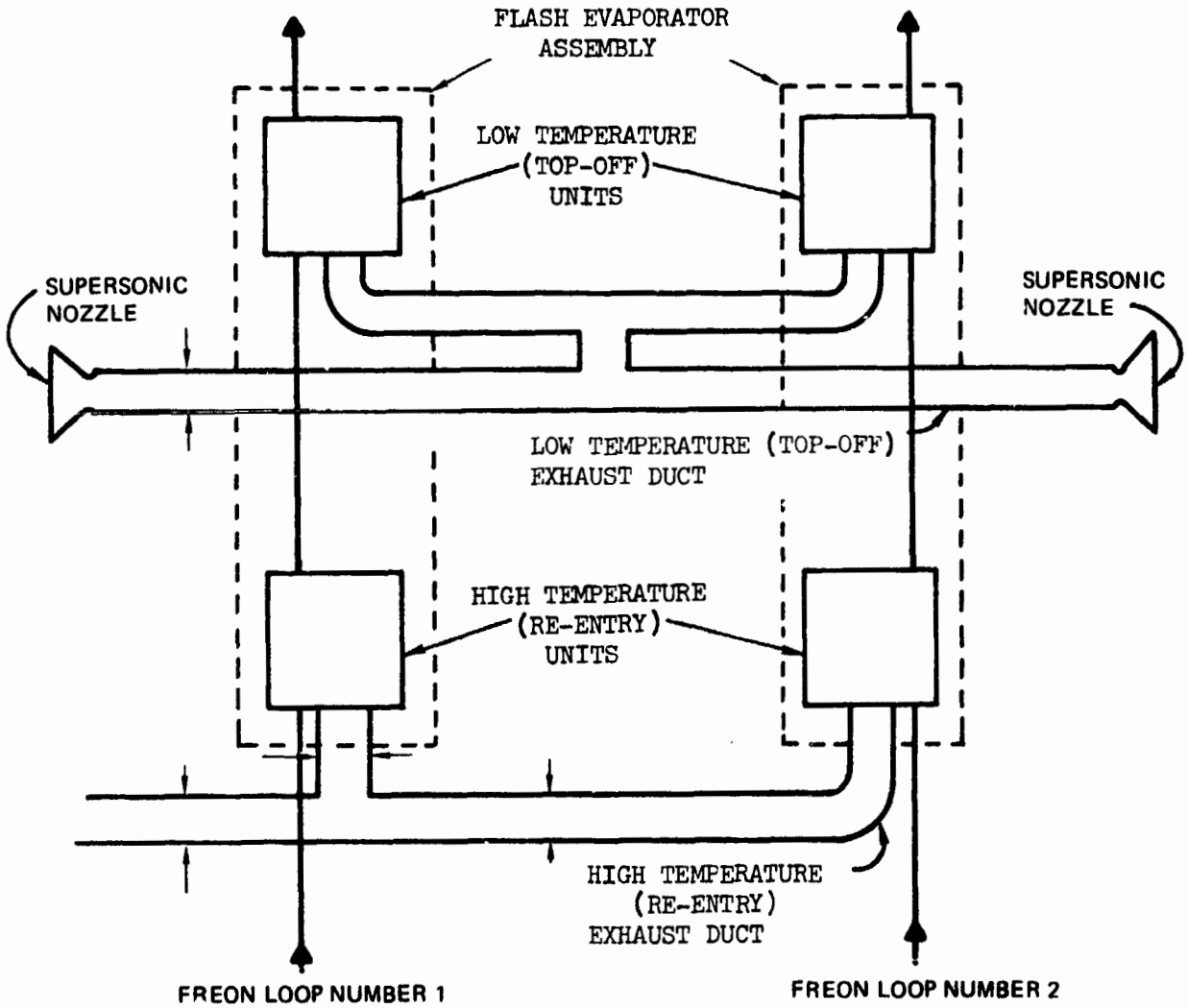


FIGURE 2-2 SHUTTLE BASELINE FLASH EVAPORATOR SYSTEM SCHEMATIC

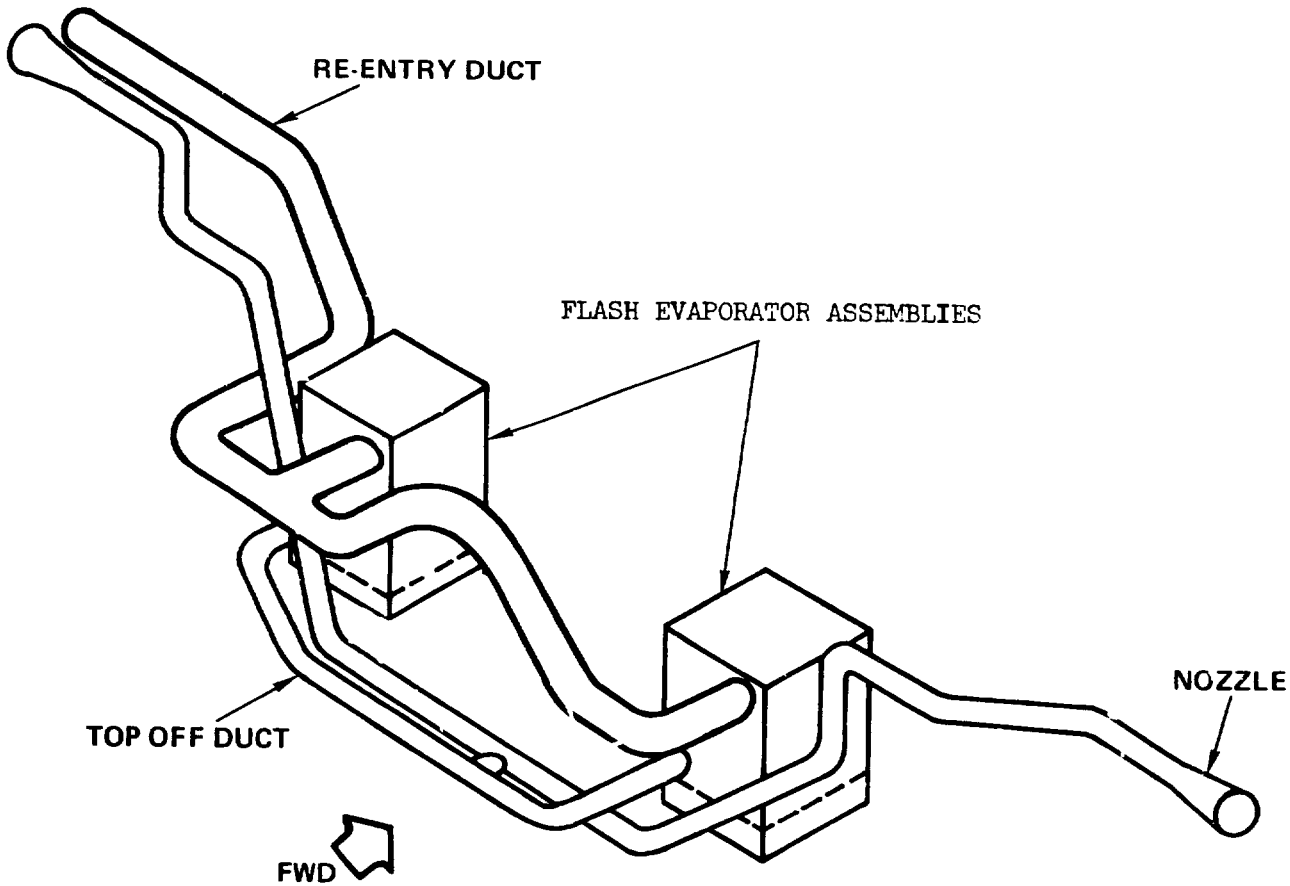


FIGURE 2-3 FLASH E. RATOR DUCT INSTALLATION

The planned tests for the flash evaporator system incorporated instrumentation to assess the flash evaporator system and its associated duct/nozzle performance, and to determine the extent of contamination of the supersonic nozzle plume on Shuttle payloads located in the payload bay.

2.2 Prior Systems Testing

Simulated Shuttle active thermal control system testing was conducted at NASA/JSC during the summer of 1973 using a modified Prototype I Flash Evaporator as an expendable cooling device. The system tested included 8 modular radiators, simulated fuel cell water supply, water storage tank, and a flash evaporator expendable cooling device. The modified flash evaporator was to demonstrate feasibility of the device application to "top-off" the radiator system during adverse orbital conditions and to dump excess fuel cell water produced during the mission. (The excess water dumped on command from a water tank sensor which changed the mix temperature of the radiators).

The 14.6 kW (50,000 BTU/hr) Prototype I evaporator was modified during the program to provide 4.69 kW (16,000 BTU/hr) of radiator top-off cooling. Additionally, the evaporator was outfitted with a 75 mm (3-in.) diameter by 1.83 m (6-ft.) long duct with two 45° bends to simulate Shuttle installation. Transport fluid lines were attached to the duct to prevent ice from depositing on the exhaust duct walls. Supersonic, plug, and sonic vapor exhaust nozzles were mated to the end of the duct to evaluate water vapor plume back-scattering on Shuttle surfaces.

The testing consisted of limit-case performance profiles and typical mission heat loads and environment conditions. The testing demonstrated: (1) outlet temperature control with a set point of 278.6°K (42°F) with a temperature range of 276° to 280°K (37° to 44°F); (2) efficient operation with 100% evaporation efficiency for evaporator and exhaust duct combination; (3) stability of the evaporator control system for rapid transient changes in inlet temperature due to radiator mix temperature change; (4) repeated dormant-to-active device operation on command of the outlet temperature sensor; and (5) the evaporator performance is insensitive to the type of vapor exhaust nozzle utilized. The exhaust nozzle test data indicated that water vapor impingement could be reduced by a factor of 3 to 10 using a supersonic nozzle and by a factor of 25 to 100 for the plug nozzle over a sonic nozzle condition. The testing results are reported in detail in References 1, 2, 3 and 4.

2.3 Test Rationale/Approach

The above testing verified the concept of the active thermal control system utilizing a flash evaporator to "top-off" the space radiators. Based on these tests, the Shuttle baseline thermal control system was modified to include a top-off evaporator to provide thermal control and to manage excess water. NASA/JSC felt that additional flash evaporator system testing was necessary to incorporate actual hardware designs and realistic vehicle interface conditions. Specifically for the prior testing: (1) the flash evaporator was an early wound tube development configuration that was modified to meet the test requirements rather than the light weight heat exchanger concept planned; (2) the exhaust duct system was a system for a single nozzle rather than the non-propulsive duct/nozzles exhausting from the side of the vehicle; and (3) the exhaust nozzle did not include vehicle interfaces which significantly influence water vapor plume formation and the resultant contamination potential. With the actual hardware design/interfaces incorporated, it was felt that these system tests would provide the technology base required to better definitize the Shuttle flash evaporator system.

2.4 Report Scope

This report summarizes the Vought support activities and functions provided to NASA/JSC during the test program under contract NAS9-10534. The report covers: flash evaporator and duct system fabrication, and flash evaporator system operation and analysis of its performance. NASA/JSC personnel were responsible for the duct/supersonic nozzle system design, analysis, and performance/operation. These activities will be covered by a separate NASA/JSC report.

The effort reported herein was performed for the NASA/JSC Crew Systems Division under the technical direction of Mr. Keith Hudkins by the Vought Corporation (formerly the Vought Systems Division, LTV Aerospace Corporation).

3.0 TEST OBJECTIVES

The following subsections define the overall objectives and the desired end products from the testing.

3.1 On-Orbit System Performance Evaluation

The Shuttle top-off flash evaporator system includes two flash evaporators and the top-off ducting system which exhausts the water vapor from the Shuttle through two supersonic nozzles. These systems were tested to meet the following test objectives.

(a) Determine flash evaporator system performance characteristics in conjunction with supersonic nozzles and non-propulsive duct system.

(b) Determine sensitivity and response of flash evaporator/duct/nozzle configuration to transient inlet conditions. Various flash evaporator inlet temperatures need to be simulated to determine control valve response. (The control valve system senses the F-21 outlet temperature and automatically regulates the supply of water to the flash evaporator to maintain a Freon outlet temperature of 40°F).

(c) Evaluate the effect of feedwater temperature on flash evaporator system performance. (Shuttle vehicle requirements indicate a temperature range on the flash evaporator feedwater supply from 40°F to 150°F).

(d) Evaluate flash evaporator/duct/nozzle configuration performance for Shuttle application.

(e) Determine duct/nozzle heater requirements. (The baseline Shuttle duct has electrical heater systems which provide 2 watts per running foot of duct. Electrical heaters with equal to and greater capability will be attached to the ducts and nozzles to determine the required size of the heaters on the Shuttle design).

f. Determine nozzle thrust characteristics. The two opposing supersonic nozzles manifolded by a duct system to both flash evaporators should have minimum net thrust on the Orbiter at the design flowrate. The net Y-axis thrust should be determined during this test, along with the total thrust, to assess the actual reduction in thrust obtained from this thrust reduction system.

3.2 Re-entry System Performance Evaporation

During re-entry, the proposed Shuttle flash evaporator system will be using two flash evaporator assemblies, each having two flash evaporators (1 on-orbit and 1 re-entry). The flash evaporators will be operated down to 100,000 ft. elevation. The test objectives (a) through (d) for the top-off evaporator test are also applicable to the ascent/re-entry evaporator system with the following additional objectives:

(a) Evaluate performance as a function of increased chamber pressure to determine effects of simulated re-entry on the system.

(b) Evaluate the flash evaporator performance while operated for long durations under simulated ascent/re-entry conditions.

3.3 End Product Definition

The desired results from the flash evaporator testing are summarized as follows:

(a) Flash evaporator system heat rejection capabilities for on-orbit and re-entry conditions as a function of (1) feed-water inlet temperatures, (2) F-21 inlet temperatures, (3) evaporator operating pressures, and (4) duct temperatures.

(b) Control valve response as a function of F-21 inlet temperature.

(c) Re-entry and top-off duct pressures as a function of water flowrates and duct temperatures.

(d) Duct and nozzle heater power as a function of water flow rates and feedwater inlet temperatures.

(e) Nozzle thrust at maximum and minimum water flowrates.

4.0 DESCRIPTION OF TEST ARTICLES AND INSTRUMENTATION

The objective of the test as discussed in the foregoing was to assess the flash evaporator system performance using realistic (or Shuttle representative) hardware/vehicle designs and interfaces. Table 4-1 is an assessment of the Shuttle "flight representativeness" of the flash evaporator system test article and configuration.

A detailed description of the actual test articles, instrumentation, and automatic data calculations used for the testing is contained below.

4.1 Evaporator

The test articles were the flash evaporators designated as Prototype 2 and Prototype 3 were fabricated by Vought under contract NAS9-13506. They are described in detail in References 5 and 6. The Proto 2, hollow-cone spray evaporator was modified with a solid bottom for this test so that it was identical to the Prototype 3 evaporator. The following description applies to the operation and construction of both evaporators.

The prototype flash evaporator is shown schematically in Figure 4-1. Evaporant enters the metering solenoid valve and flows through an atomizing spray nozzle. The spray is dispersed into liquid droplets which impinge and spread onto the heat transfer surface. The droplets flash into vapor by absorbing waste heat from the Freon transport fluid circulating within the surface. The vapor then leaves the device through an exhaust duct system.

Control is provided by regulating the amount of evaporant spray impinging on the heat transfer surface. The evaporant metering solenoid valve, which allows full flow or no flow, is operated from a transport fluid outlet temperature sensor. Low capacity is achieved by short flow times and long no-flow periods, etc. Full capacity results when the evaporant flows continuously. The total cycle time for an on/off cycle is approximately six seconds.

The evaporant solenoid metering valves are constructed from stainless steel and use 28 vdc signal for operation. Primary and redundant valves will be included for the flight units, but were not available for prototype testing reported herein.

The spray nozzle produces a hollow cone spray pattern with water droplet diameters of 50 to 300 micro meters. The internal flash evaporator spray nozzles are constructed using brass and stainless steel pieces.

TABLE 4-1

"REPRESENTATIVENESS" EVALUATION
FLASH EVAPORATOR TEST CONFIGURATION

EVAPORATOR PERFORMANCE/OPERATION

1. Heat transfer performance/capability: representative
2. Control system operation/evaporator thermal response: representative
3. Pressure drop: not representative because of higher flowrate and manifolds
4. Environment (thermal, pressure): representative

SYSTEM CONFIGURATION

1. "Top-off" configuration: representative
2. Water dump: representative
3. Ascent/Re-entry: representative

EVAPORATOR CONFIGURATION

1. Hx* surface construction: representative
2. Hx surface fabrication process: not representative (due to brazing process)
3. Hx configuration (dia., height): not representative since designed for different loads, flowrates
4. Fluid manifolding: not representative since they were designed to accommodate a variety of configurations, heat loads, etc.
5. Valve: not representative
6. Valve/nozzle mounting plate: not representative for same reason as #4
7. Backcone configuration: not representative for same reason as #4
8. Structural elements/mounting provisions: not representative since they have not been designed
9. Exhaust transition piece: representative
10. Evaporator-to-duct transition: not representative since design not initiated (can be modified later)
11. Packaging: not representative since design is not complete

DUCT CONFIGURATION

1. No reaction duct (3.5"): representative
2. Ascent/re-entry duct (5"): representative

*HX - Heat Exchanger

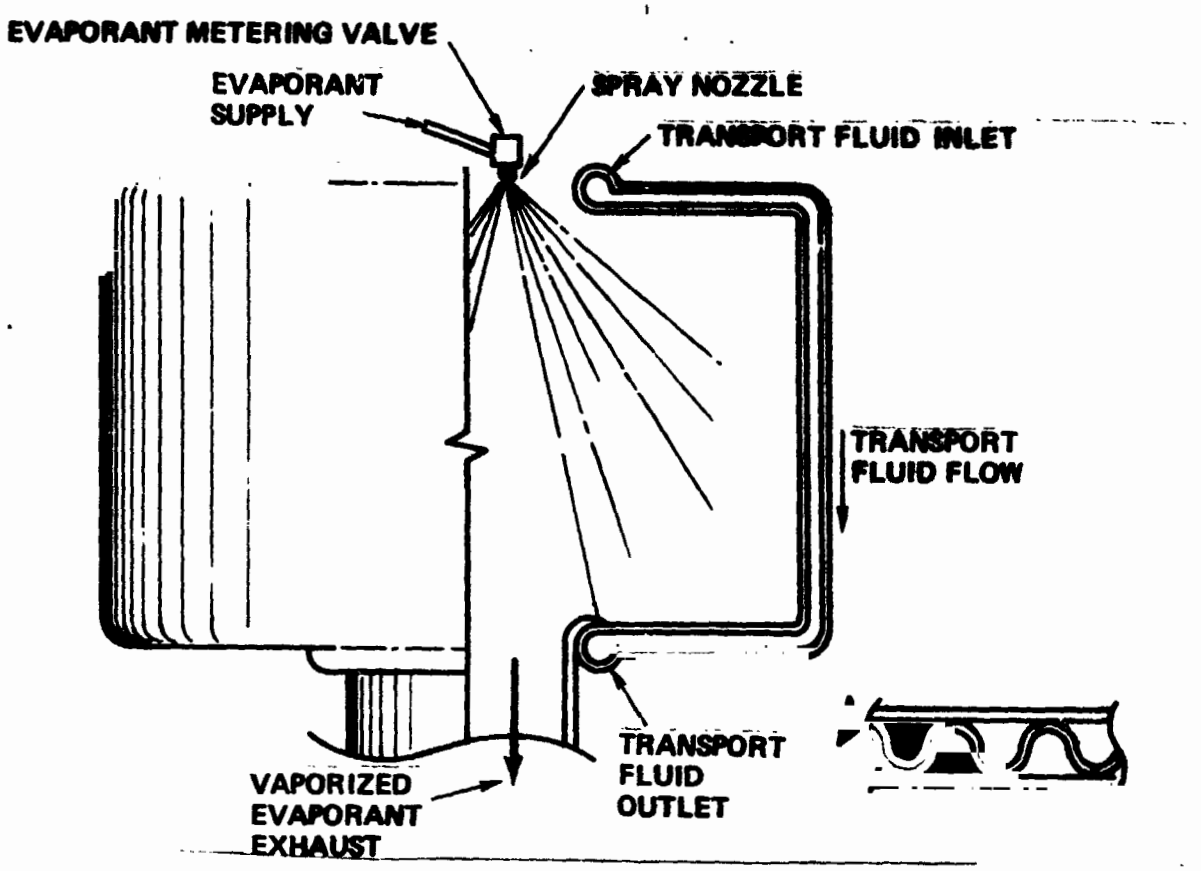


FIGURE 4-1 FLASH EVAPORATOR CONFIGURATION SCHEMATIC

The flash evaporator is constructed of a single layer of heat exchanger core shaped as a right-circular cylinder 15" in diameter and 9" long with one end closed-out with a flat disc (Figure 4-2). Sheet metal extends the open end of the cylinder 2.75" and is flanged outward to facilitate attachment of various evaporator backcones. The sheet metal extension is welded to a 0.5" diameter ring manifold which has six discrete outlet tubes. The manifold outlet tubes connect to six discrete, equal-length tube circuits (Figure 4-3) which are welded to the backcone. These circuits provide spray nozzle and backcone heating before being manifolded to a single outlet tube which wraps around the exhaust port. The exhaust port is a 4.75" I.D. pipe 6" long welded to the 0.25" thick backcone plate. A half inch radius was machined on the inside of the 4.75" I.D. pipe to provide a smooth entrance into the exhaust port from the evaporator cavity.

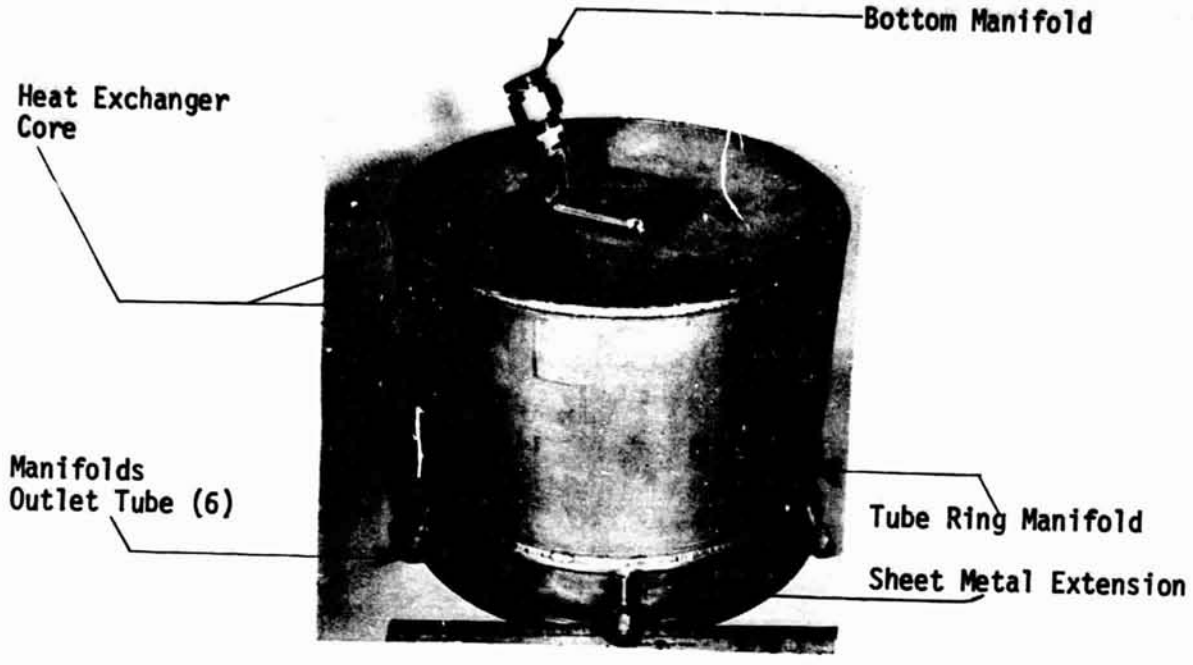


FIGURE 4-2 EVAPORATOR TEST ARTICLE CONSTRUCTION

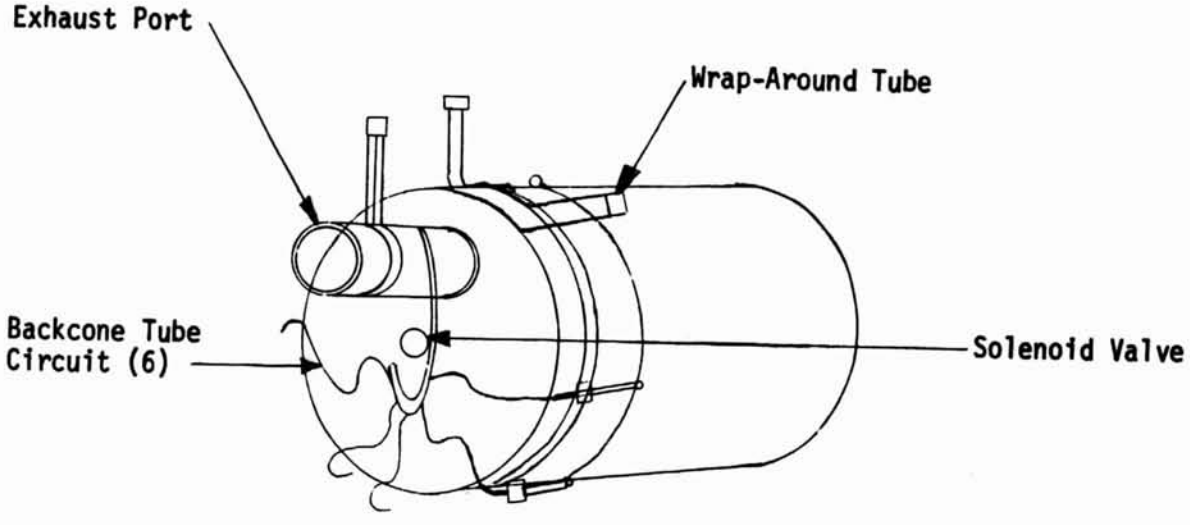


FIGURE 4-3 EVAPORATOR BACKCONE CONSTRUCTION

The sheet metal extension is heated by a wrap-around tube which has the full Freon flow through it. When the evaporator was connected to the 3.5" O.D. duct, the Freon flow entered the wrap-around tube and was plumbed to the bottom manifold where it entered the heat exchanger core. Freon flowed radially from the bottom manifold, up the cylindrical sidewalls, out the ring manifold into the backcone heating circuits. The backcone heating circuit flows are mixed and the full Freon flow exists through an exhaust port heating tube. The Freon plumbing for the evaporator on the 3.5" diameter duct was identical to that of the evaporator on the 5" O.D. duct; however, the direction of the flow was reversed. In the latter, the Freon 21 entered the exhaust port heating tube and exited at the wrap-around tube.

4.2 Exhaust Duct

The purpose of the ducting system is to vent steam generated by the flash evaporator overboard from the Shuttle. Rockwell International specified the routing of the duct in drawing number VL70-005189 (shown previously in Figure 2-3). NASA/JSC analyzed the ducting system and Vought fabricated the duct system for the test. Certain deviations in the Rockwell baseline were made by NASA to keep costs down and maintain the delivery schedule. The duct wall thickness was 1/4 inch for both the 5" O.D. re-entry and 3.5" O.D. top-off ducts. Rockwell specified a 10.5" bend radius for the 3.5" O.D. duct and a 15" bend radius for the 5" O.D. duct. These bend radii were increased to 12" and 24" respectively since the original bend radii required special tooling adversely impacting cost and delivery schedules.

Although the bend radii were not maintained, the number of degrees of turning in the bends, the total number of bends, and total duct length of the Rockwell baseline duct were duplicated in the construction of the duct test article. Figure 4-4 shows the electrical resistance heater wrapped on the two duct test articles. The re-entry duct (5" O.D.) had three separately controlled heater power zones. The heater wraps were spaced closer together near the evaporator duct outlet to ensure evaporation of liquid carryover. The top-off duct (3.5" O.D.) had four separately controlled heater power zones with the heater wraps spaced closer together near the evaporator. To prevent heat soak-back across the duct/evaporator flange, a 1/32" thick Teflon gasket was installed at the flange interface. The duct supported the evaporator through the flange interface. NASA/JSC designed and manufactured the supersonic nozzles used in the top-off duct. The nozzle cross section is shown in Figure 4-5.

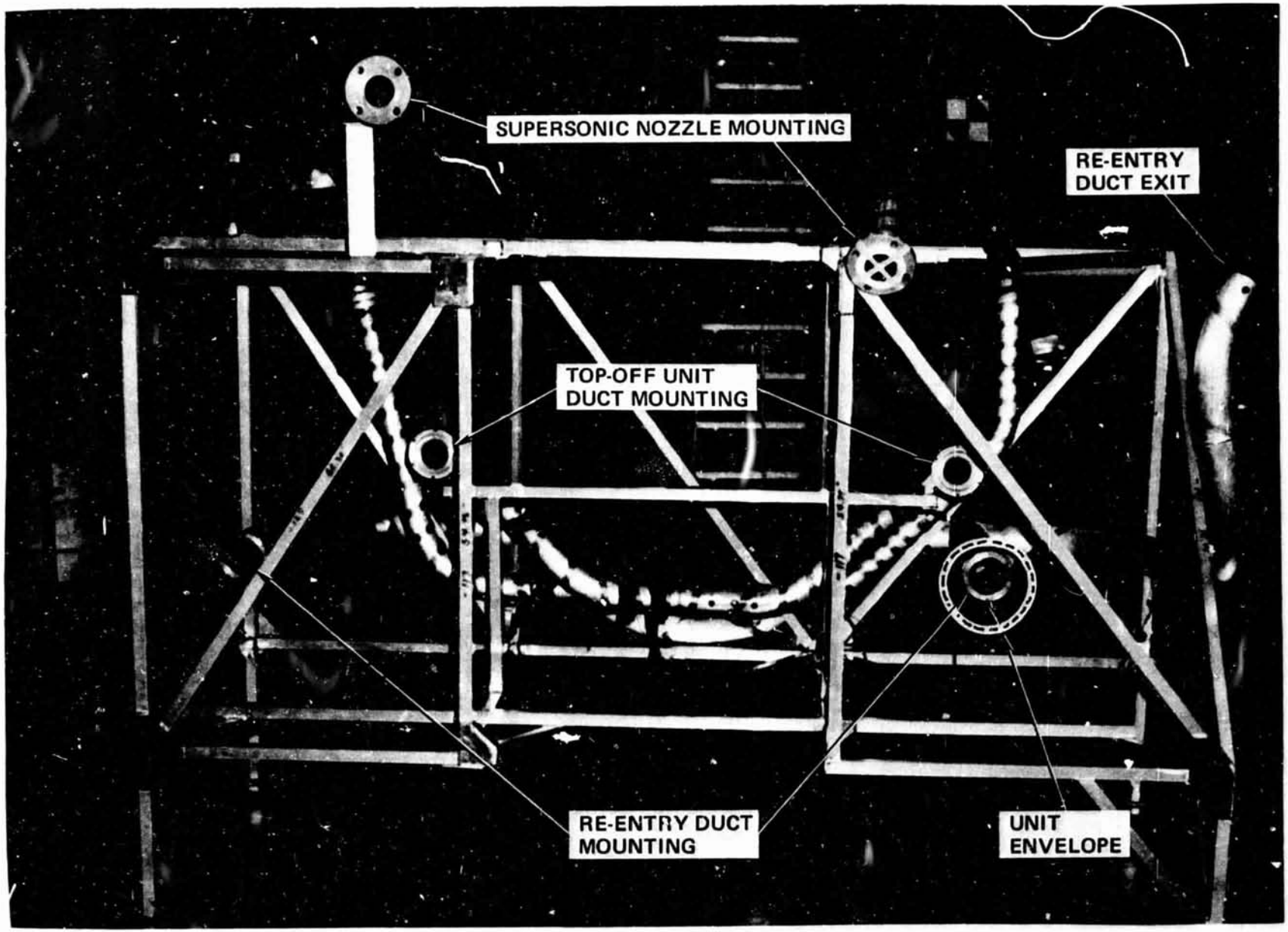
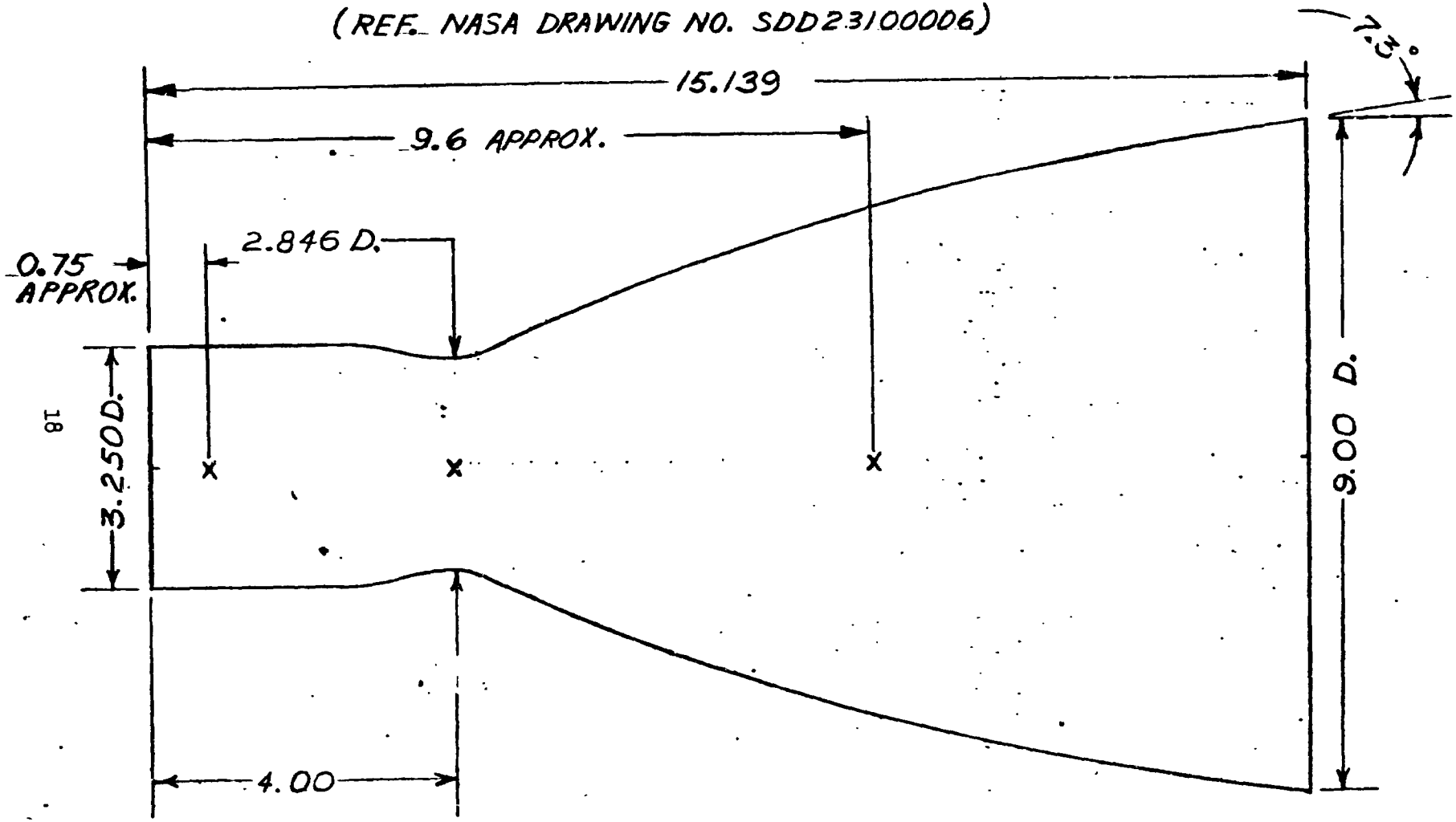


FIGURE 4-4 DUCT ASSEMBLY TEST ARTICLE

FIGURE 4-5 FLASH EVAPORATOR WATER VAPOR EXHAUST NOZZLE



ALL DIMENSIONS IN INCHES
X's DENOTE THERMOCOUPLE LOCATIONS
PRESSURE TAPS SHOWN ON REF. DRAWING

4.3 Instrumentation and Test Data Calculations

The flash evaporator Freon flow system and feedwater supply system instrumentation used during testing are shown schematically in Figure 4-6 along with the test instrumentation designation number.

Each evaporator had redundant fluid temperature measurements in the inlet and outlet Freon lines and a Freon pressure drop across the evaporator. Evaporant feedwater temperature and pressure were measured at the inlet to the solenoid valve/spray nozzle. The evaporator backcone had a pressure port to which a baratron pressure gauge recorded the low (0-10 torr) evaporation pressures.

The top-off and re-entry duct temperature and pressure instrumentation with corresponding measurement numbers are shown schematically in Figures 4-7 through 4-10.

The re-entry duct had ten thermocouples and five pressure taps. The thermocouples were installed approximately equal distance along the duct with five thermocouples associated with the pressure taps. Thirteen thermocouples and seven pressure taps were on the top-off duct with one thermocouple associated with each tap and the remaining thermocouple installed so that all thermocouples were approximately equal distance.

Appendix A contains a description of all temperature, flow, pressure, and weight measurements made during the flas evaporator testing including the measurement identification number, range of data for which the calibration was made, and the accuracy desired by NASA/JSC. The data for Appendix A was obtained from the NASA Test Plan, Reference 7. (The Freon temperature measurement accuracy requested in this NASA test plan, however, was not that recommended by Vought in Reference 8 to obtain accurate performance measurement. This will be discussed further in Section 5.)

In addition to recording of instrumentation measurements, "real time" calculations were made by the NASA/JSC data system to provide real time assessment of heat rejection, performance efficiency, evaporant usage, etc. for each evaporator and the system as a whole. A description of the detailed calculations made during the test along with the associated instrumentation measurements used therein are documented in Appendix B as obtained from the NASA/JSC test plan of Reference 7.

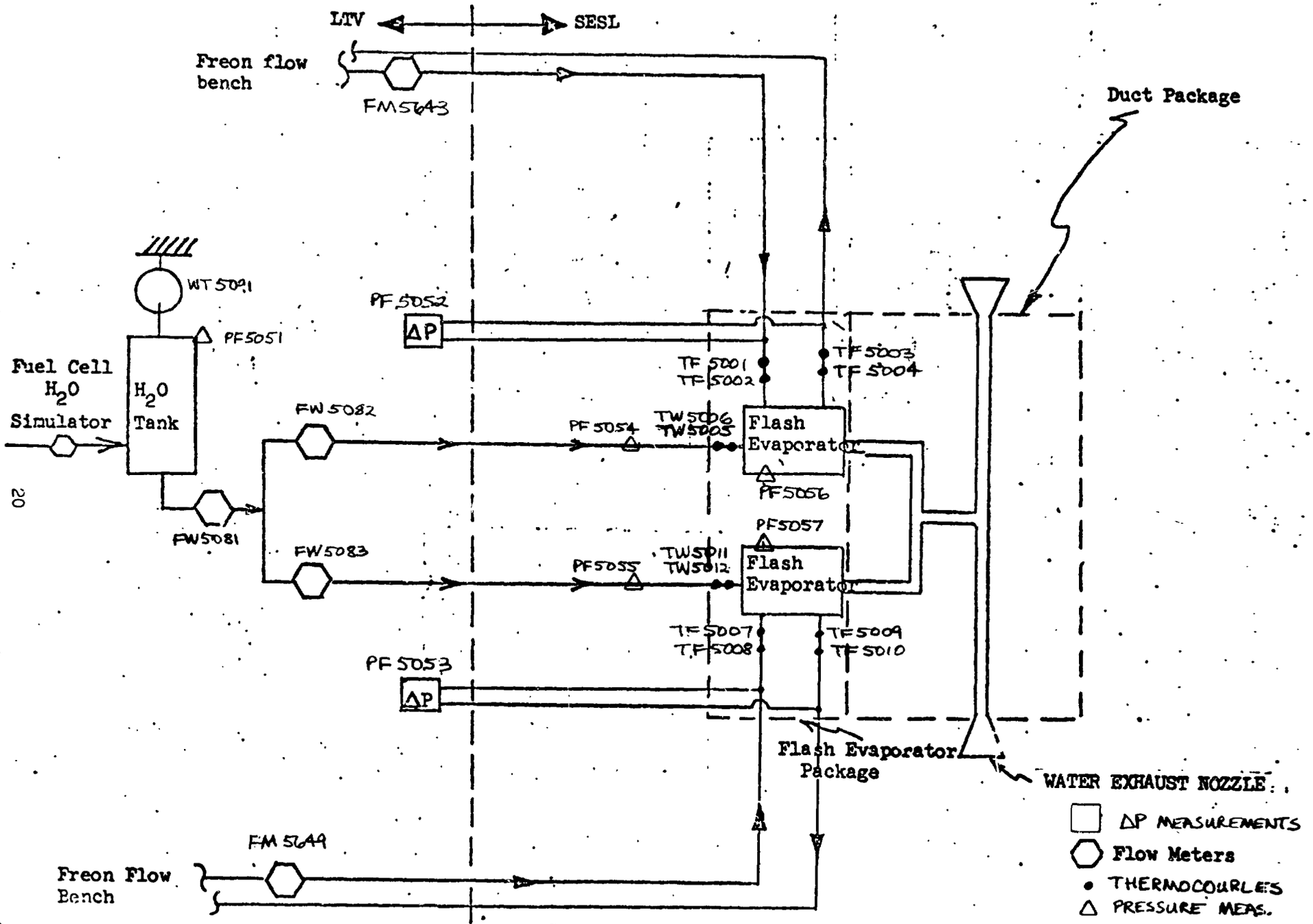
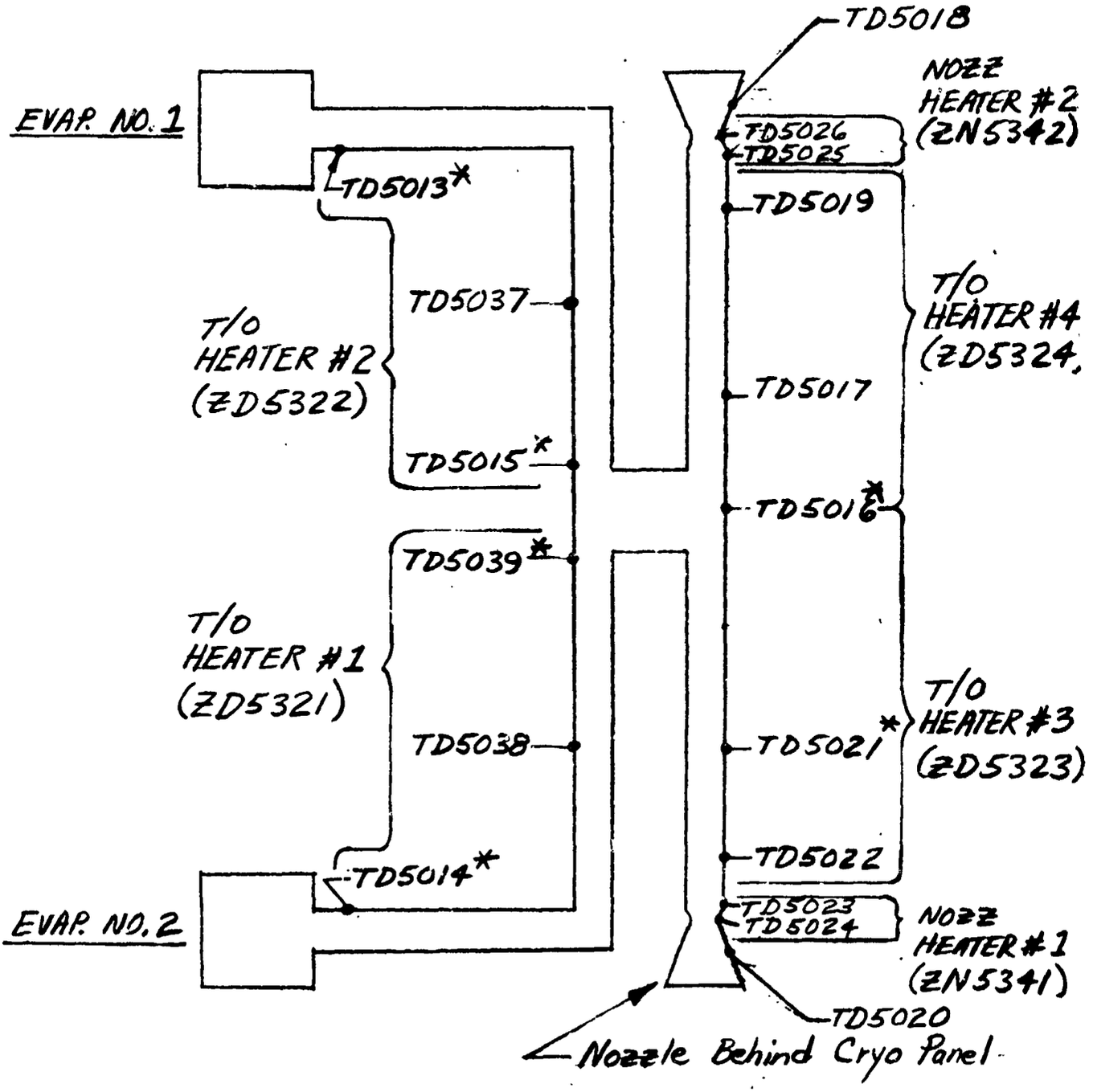


FIGURE 4-6 FLASH EVAPORATOR 1 SYSTEM INSTRUMENTATION SCHEMATIC

FIGURE 4-7
TOP OFF DUCT HEATER AND THERMOCOUPLE LOCATIONS



* Thermocouples located by pressure taps

FIGURE 4-8
TOP OFF DUCT PRESSURE MEASUREMENTS (ON OREIT MODE)

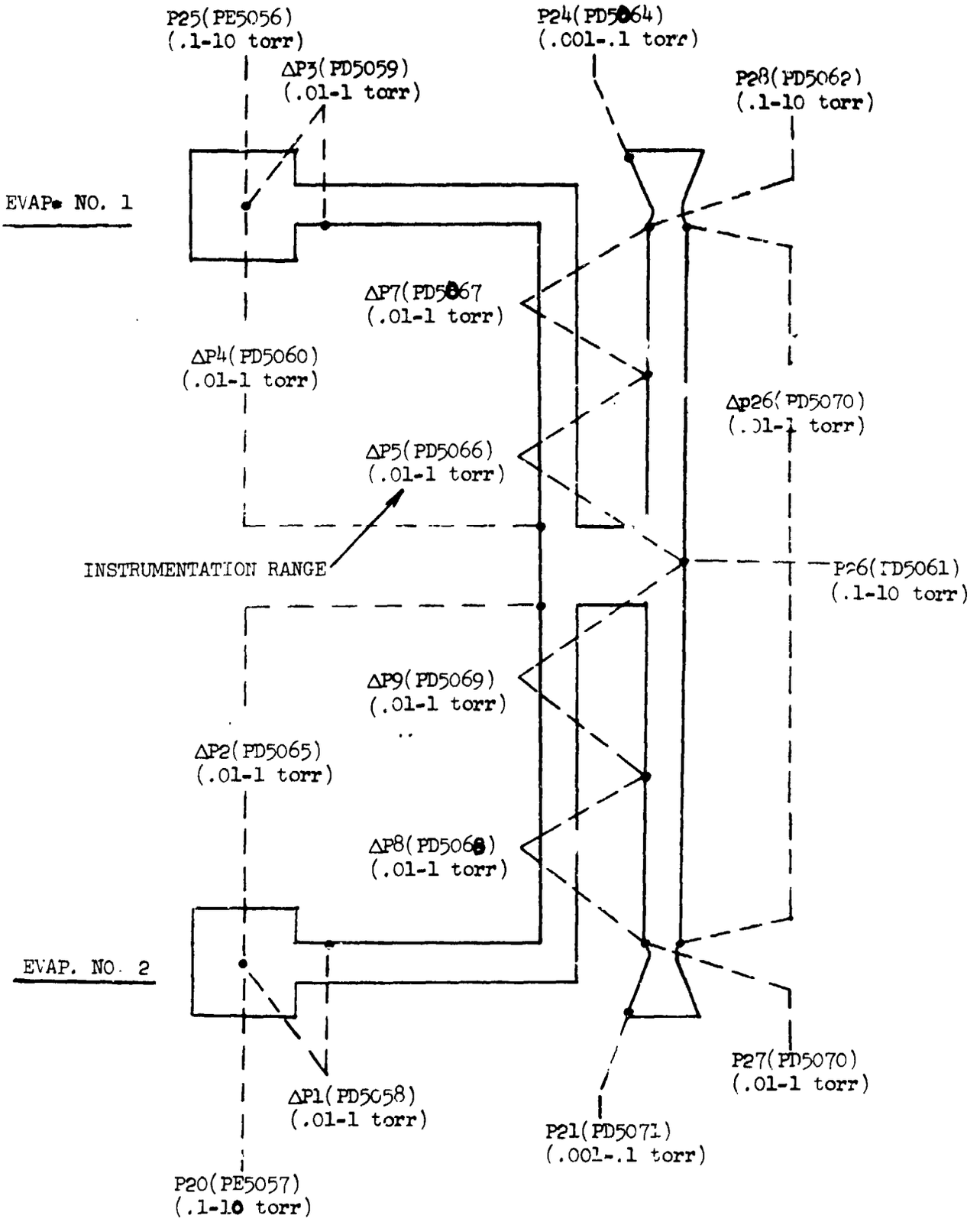
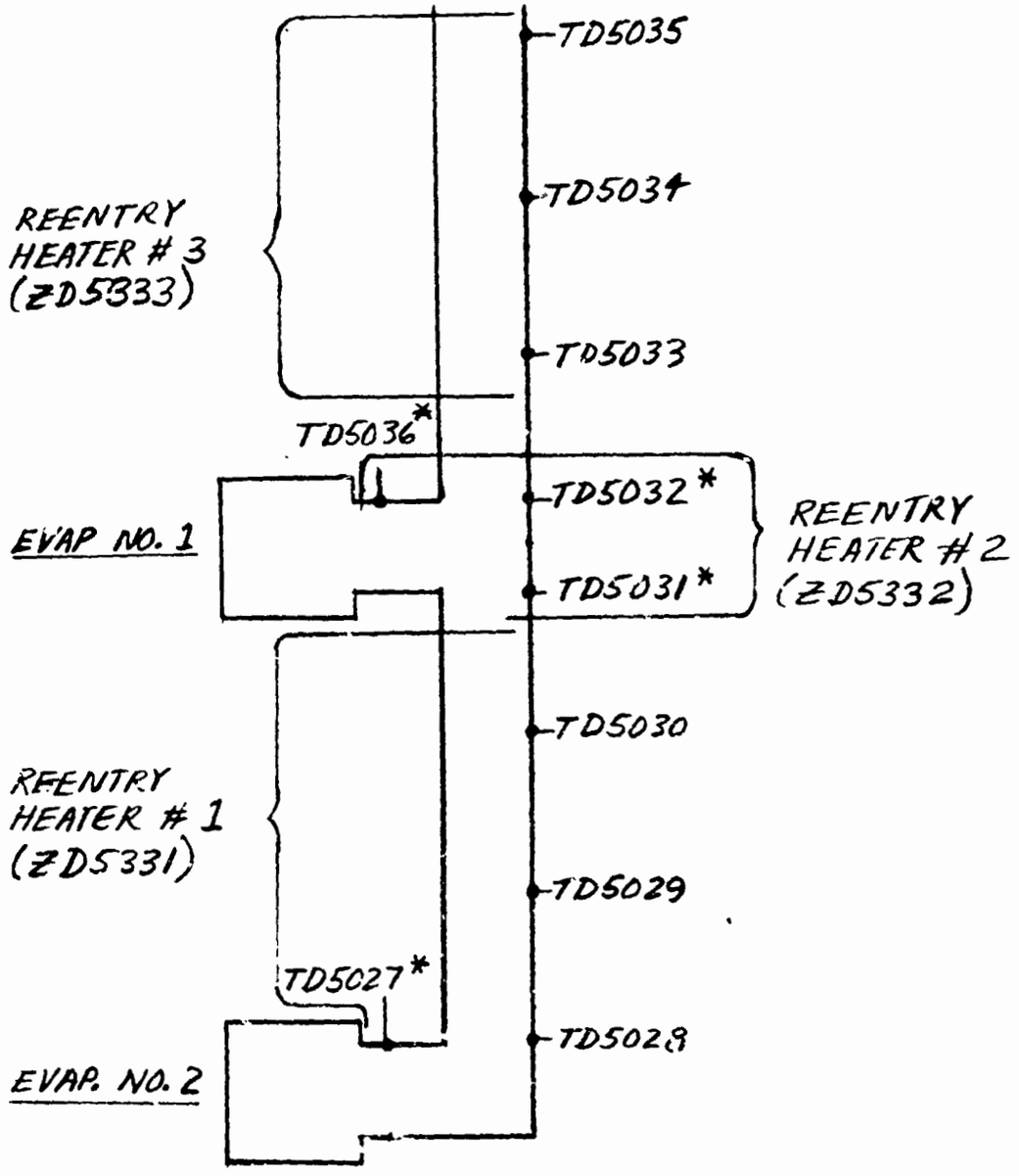
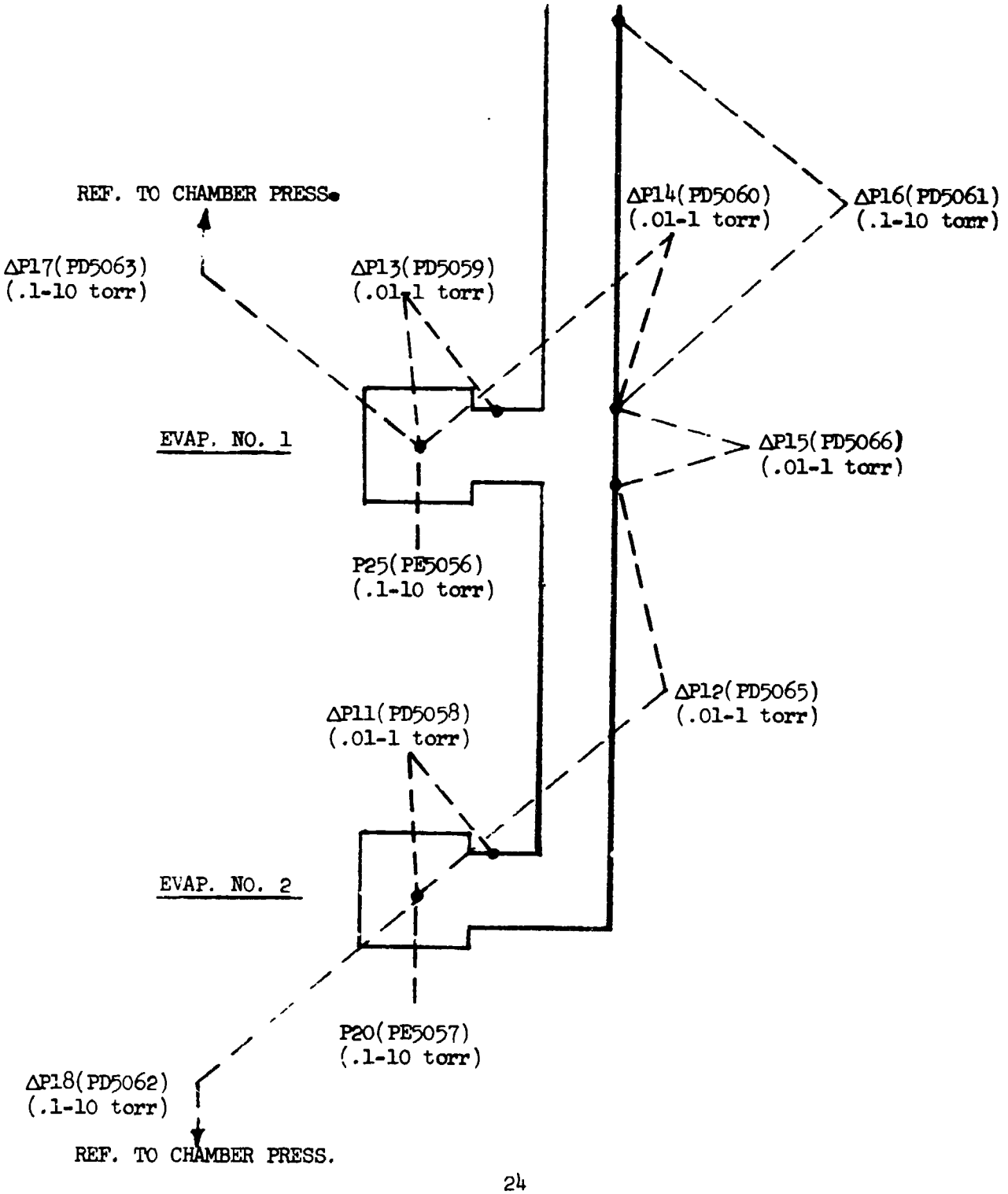


FIGURE 4-9
RE-ENTRY DUCT HEATER AND THERMOCOUPLE LOCATIONS



* Thermocouples located by pressure taps

FIGURE 4-10
HIGH LOAD RE-ENTRY MODE PRESSURE MEASUREMENTS



5.0 TEST RESULTS, SEQUENCE 1

Test Sequence 1 of the flash evaporator system test was run at NASA/JSC Chamber A from 22 April through 25 April 1975. The evaporators were tested in the Shuttle top-off configuration for orbital operation simulation with both evaporators mounted to the non-propulsive duct as shown schematically in Figure 5-1. The objectives of this test sequence are described in Section 3.1 Table 5-1 summarizes the specific test points run and which objective was being addressed during the test point. A discussion of the test events and the results obtained are reported below.

5.1 Duct/Nozzle Design Adequacy

Test point 1 was run with the evaporators at maximum heat rejection conditions to establish the heater power required to maintain the duct above freezing, and to determine the adequacy of the supersonic nozzle design by its effect on evaporator chamber pressure. The flash evaporator was designed to operate at a chamber pressure of 3.8 mmHg which results in a saturation temperature of 28°F. It is at these conditions that optimum performance is obtained. The combination of duct/supersonic nozzle designed by NASA resulted in the two evaporators operating at long duration steady state at 3.0 and 2.88 mmHg respectively (with a corresponding chamber saturation temperature of 23°F). Although the evaporator appeared to operate satisfactorily at these conditions through most of the test, it can be concluded that the combination of duct analysis and supersonic nozzle design conducted by NASA needs to be further refined to assure future system operation at the proper design chamber pressure.

5.2 Instrumentation Performance Adequacy

Several instrumentation problems and inadequacies surfaced early in this test sequence. These included evaporant flow, chamber pressure, Freon temperature measurement, and ACE's "drift".

During test point 1, feedwater flow meter measurement inconsistancies appeared. The individual evaporator feedwater flow meter readings where checked against the total flow measurement during and after the test point showed up to 20% variation in indicated flow. The check was made by manually turning off one evaporator and comparing the flow meter reading for the other evaporator against the total flow reading. The results of

FIGURE 5-1
TOP OFF FLASH EVAPORATOR SYSTEM SCHEMATIC

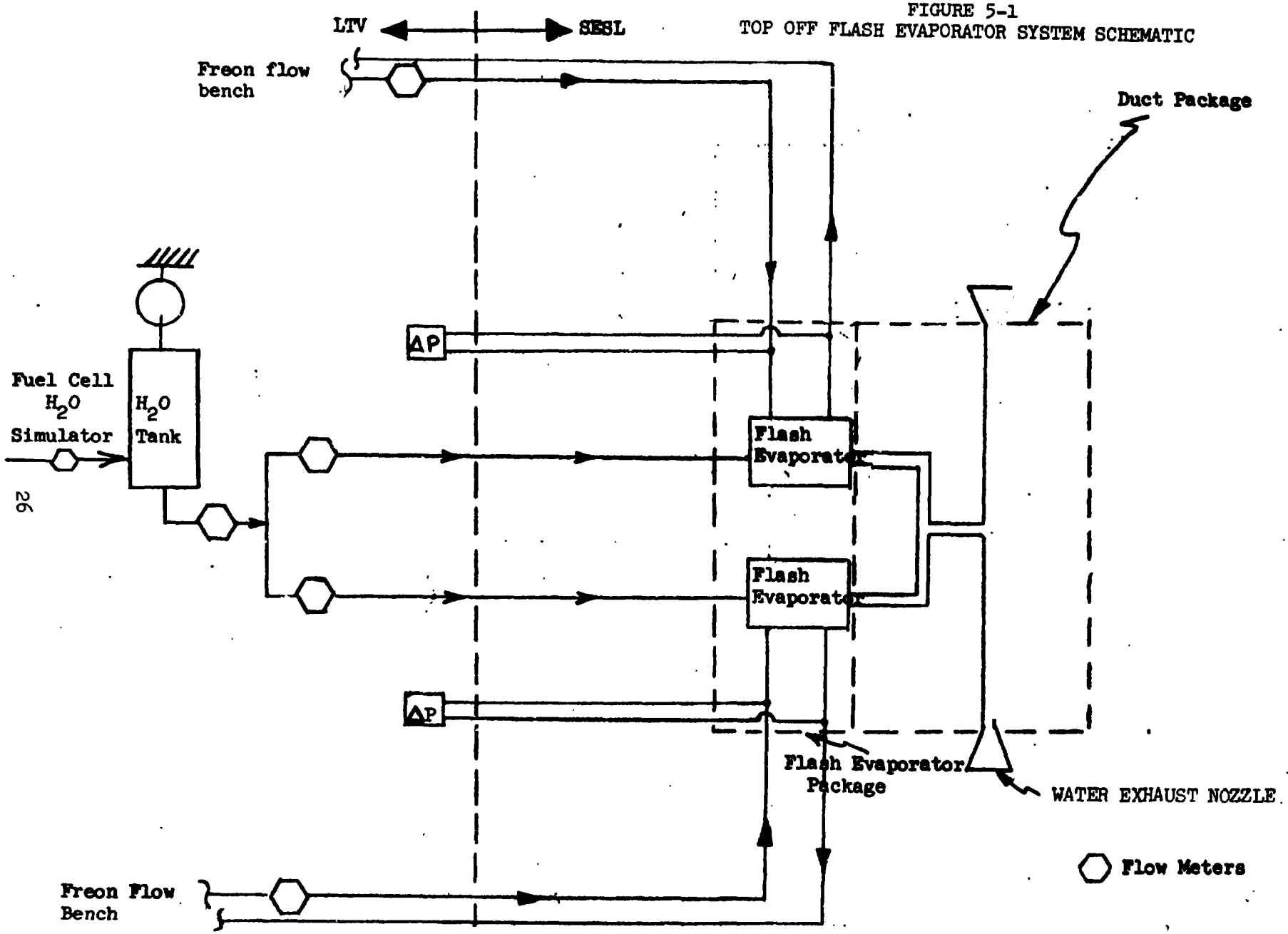


TABLE 5-1

SUMMARY OF SEQUENCE 1 TEST POINTS
(ON-ORBIT/TOP-OFF CONFIGURATION)

TEST POINT	PURPOSE
1	Establish duct heater power to maintain duct temperature above freezing
2 thru 9 11a thru 11d	Determine evaporator performance at maximum and minimum Freon flowrates at various water evaporant temperatures with the Freon inlet temperatures that yield the 15000 BTU/hr/evaporator maximum heat rejection operation
10 thru 17	Determine evaporator performance for partial load with on-off water valve operation (less than 15000 BTU/hr/evaporator heat loads).
18	Case of greatest water carryover into ducts. Duct heaters set to maintain duct temperature at 30°F or greater.
19	Repeat test point 18 with duct heaters set to maintain temperatures at 20°F or greater.

several comparisons are presented in Table 5-2.

TABLE 5-2 FLOW METER READING COMPARISON

TIME DAY:HR:MIN	TOTAL FLOW RATE (PPH) FW 5081	EVAPORATOR 1 FLOWRATE (PPH) FW 5082	EVAPORATOR 2 FLOWRATE (PPH) FW 5083
112:19:38	17.9	OFF	15.1
112:21:10	14.3	15.1	OFF
112:21:10	17.0	OFF	14.8

After test point 6, the three flow meters were again checked and the flow measurements were found to vary significantly from each other. The effect of these large variations in flowrate are large differences in performance (via enthalpy change calculations) between the evaporators which was up to 20%. This large variation in performance had never been previously experienced during evaporator development or checkout testing. The accuracy of the absolute performance obtained in this test point make the data less than meaningful for accurate performance evaluations. The flow meters were re-calibrated for test sequence 2 as discussed in Section 6.

Freon inlet and outlet temperature measurements (which were redundantly made) demonstrated large inaccuracies between each other during this test sequence. Table 5-3 compares the differences in ACE readout of these redundant temperature measurements which should have been identical. Although these temperatures were within the test plan (Reference 3) requested accuracy of $\pm$ 1% of the 200°F range, this accuracy was not adequate to get the desired scientific performance data. A $\pm$ 1/4°F accuracy was recommended by Vought in Reference 8. The differences in measured temperatures affected the resulting accuracy of the performance calculation ZH 5271 from 5 to 7% for evaporator 1 at maximum heat load operation. Obviously as the difference between inlet and outlet temperature decrease for lowering heat load, the error in performance calculation will be much greater. Care should be taken in future evaporator testing to assure minimum temperature measurement error in order to obtain accurate performance measurements.

Chamber pressure measurement problems also plagued this test sequence. The baratron chamber pressure measurement for evaporator 2 was lost after test point 1 at time 112:22:53 and did not appear to recover. This

TABLE 5-3

TEMPERATURE INSTRUMENTATION MEASUREMENT COMPARISON

			TIME (DAY:HR:MIN)			
	DESCRIPTION, MEASUREMENT NO.		112:21:00	113:08:30	113:15:16	114:03:45
EVAPORATOR 1	Inlet Temp.	TF5001	63.0	66.6	54.4	45.0
		TF5002	61.6	65.4	53.2	43.3
	Difference Δ, °F		1.4	1.2	1.2	1.2
	Outlet Temp.	TF5003	42.7	45.8	40.9	41.9
		TF5004	42.7	46.2	41.2	42.3
	Difference, °F		0	0.4	0.3	0.4
EVAPORATOR 2	Inlet Temp.	TF5007	63.6	69.8	54.4	45.4
		TF5008	63.6	70.2	55.2	45.8
	Difference, °F		0	0.4	0.8	0.4
	Outlet Temp.	TF5009	42.1	44.1	40.5	41.6
		TF5010	42.7	44.1	40.5	41.9
	Difference, °F		0.6	0	0	0.3

failure appeared to be due to water freezing in a 6" section of unheated line connecting the baratron gage to the evaporator installed by Vought. A heater was installed on this line for the following test sequence.

The entire ACE's data acquisition system had significant, undefined problems during test points 12 through 17. During steady, normal operation of the system, all the ACE's temperature measurements would suddenly show drops 2 to 3°F and then climb back to their original values in approximately 15 minutes. During the indicated sudden temperature drop and subsequent recovery, the flow bench temperature conditioning equipment indicated steady Freon flow and temperatures. The ACES"drift" will be shown later on Figures 5-4 and 5-5. Although not substantiated, it is believed that this problem causing ACES drift might have affected the absolute temperature readings. This will be discussed further in Section 5.5.

5.3 Effects of Feedwater Temperature, Freon Flow, and Water Supply Pressure on Performance

The effect of feedwater temperature, Freon flow and water supply pressure on evaporator performance was obtained from test points 1 through 9, and 11a through 11d, is shown on Figure 5-2 and tabulated on Table 5-4. The average combined evaporator performance, hfg, as obtained from DACS calculations ZH5281 and ZH5273 is shown in the Figures. (The individual evaporator performances were not considered because of the flow instrumentation decrepancies described earlier.)

As seen in the data, the performance decreases with increase in feedwater temperature as expected. The variation between the two performance calculations (ZH5281 and ZH5273) is approximately 5%, and is due to the temperature and flow instrumentation and measurement accuracy. Instrumentation and system reduction improvements would decrease this error.

At the low feedwater temperature, the evaporator performance results show from 5 to 10% water carryover into the duct system. At high feedwater temperature, the performance results indicates from 10 to 15% water carryover. This decrease in performance with increased temperature was expected due to order of magnitude higher droplet vapor pressure causing some disintegration of the droplet into a fine mist which inturn is carried by the gas exhausting from the evaporator into the exhaust duct.

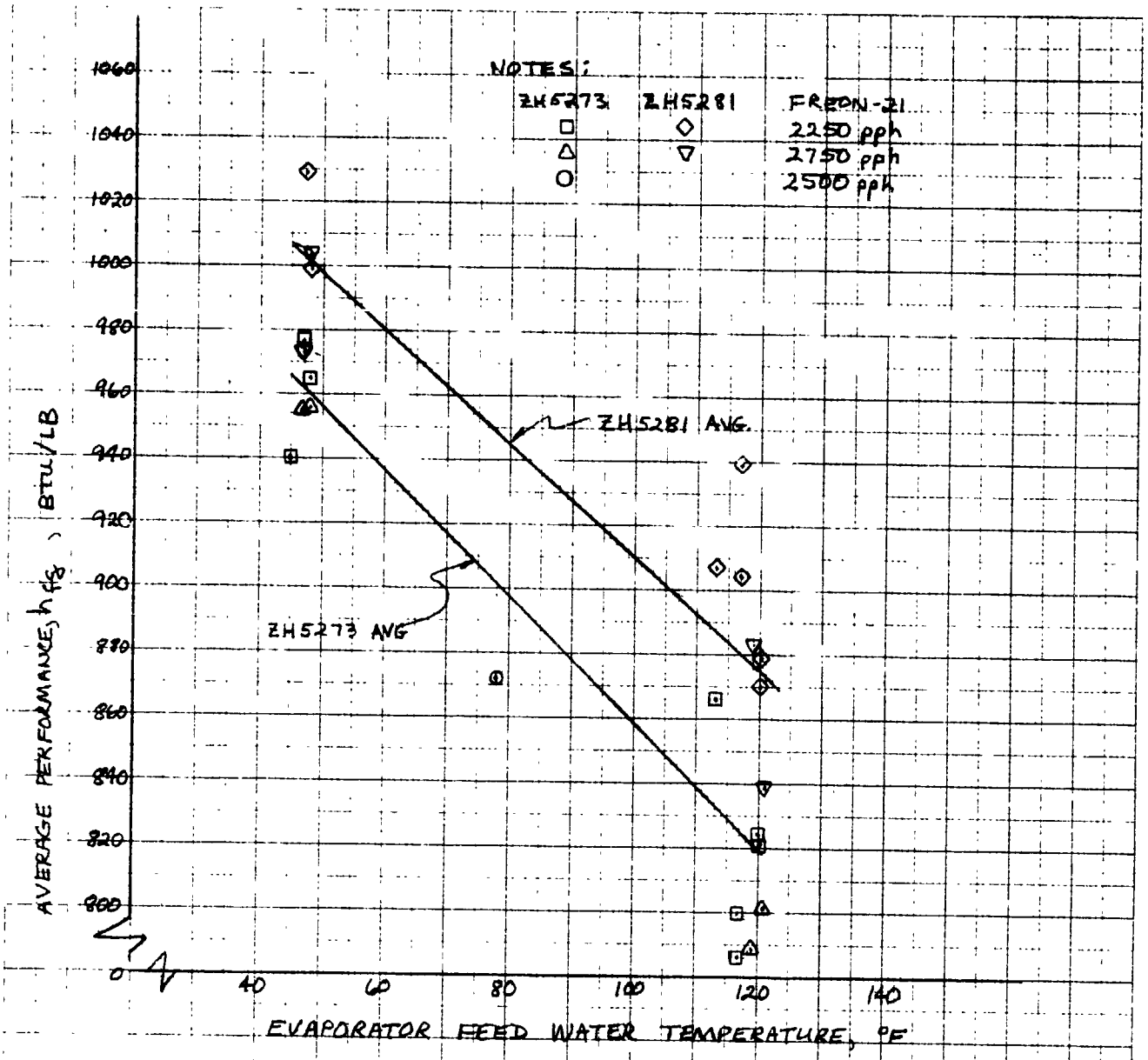


FIGURE 5-2, EFFECT OF FEEDWATER TEMPERATURE ON PERFORMANCE

TABLE 5-4
EVAPORATOR PERFORMANCE, MAXIMUM HEAT LOAD CONDITIONS

TEST PT.	FEED-WATER TEMP °F	FEED-WATER SUPPLY, PRESSURE, PSIA	FREON FLOW (pph)	AVG H_{fg} TOTAL SYSTEM ZH5273	AVG H_{fg} TOTAL SYSTEM ZH5281	EVAP. 1 ZH5271	EVAP. 2 ZH5272
1	78°	21.5	2500	872	---	798	946
2	48°	16.8	2250	965	999	825	1115
3	48°	16.6	2750	956	1003	813	1110
4	47°	17.6	2750	955	973	817	1102
5	47°	17.6	2250	976	1029	838	1126
6	113°	22.1	2250	866	907	742	993
7	119°	11.3	2750	789	883	769	809
8	120°	18.0	2750	801	839	761	843
9	120°	17.6	2250	821	879	786	858
11a	117°	20.2	2250	800	905	742	861
11b	117°	24	2250	736	939	773	---
11c	120°	20.4	2250	822	870	---	859
11d	45°	17.2	2250	939	---	846	1034

*ZH----- readings in BTU/lbm

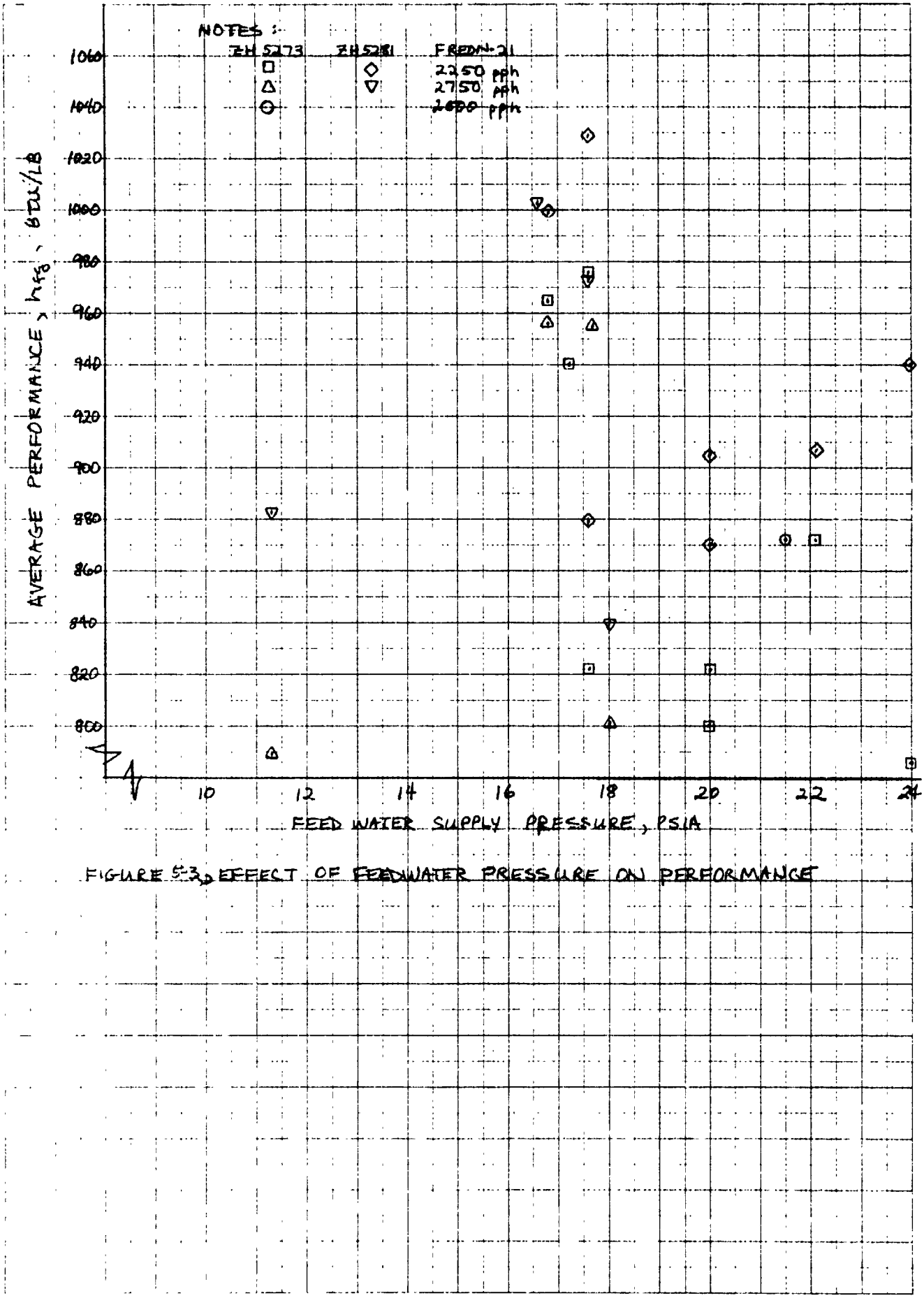


FIGURE 5-3, EFFECT OF FEEDWATER PRESSURE ON PERFORMANCE

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The use of an elbow anticarryover device planned in the Representative Shuttle Evaporative Heat Sink flash evaporators would minimize this carryover significantly.

The effect of Freon 21 flow rate on performance can be seen in Figure 5-2. As demonstrated in the figure, the performance does not appear to show any trend indicating the effects of feedwater temperature dominate variation in performance due to Freon flow rate.

The effect of feedwater supply pressure on performance is shown in Figure 5-3. As seen in the figure, the performance data does not appear to show any correlatable trends indicating the effects of feedwater supply temperature dominate any performance variation due to supply pressure.

5.4 Duct/Nozzle Exhaust Ice

Ice flakes were first noticed at the nozzle exhaust during test point 9 when the video system was turned on. At this point, both evaporators were operating at maximum heat load (65°F Freon inlet), with 120° feedwater inlet temperatures, and with duct temperatures of 80°F to 120°F. At these test conditions, the flash evaporator system was operating with the greatest carryover (around 10%). Ice could have, however, exhausted from the nozzles prior to this time. Therefore it was decided to repeat test point 9 (as test point 11a) to ascertain the ice exhaust repeatability.

Ice again was seen in test point 11a exhausting the nozzle at intervals of approximately 1-1/2 minutes. Test points 11b and 11c were defined with the operating conditions of test point 9 but with one evaporator (evaporator #1 for test point 11b and no. 2 for test point 11c) operating. No ice was observed for these conditions. Test point 11d was defined as a repetition of test point 2 to determine whether ice would form at low feedwater inlet temperatures (45°F). For this condition, the water carryover was approximately 5%. No ice was seen at this condition. Test points 11a through 11d were reruns of previously run test points and demonstrated the repeatability of the data as can be ascertained within the accuracies of the instrumentation.

It could be surmised that at conditions of maximum water carry-over, that some of the water droplets that do not impinge on the wall could form ice in the vapor stream due to low and lowering duct pressures, and these ice "flakes" are carried out the nozzles without impinging on the hot duct walls. There is not sufficient data, however, to verify this thesis. Further explanation might be obtained from the NASA duct test analysis.

5.5 Partial Load Operation

Test points 10 through 17 were run to determine the flash evaporator performance and operating characteristics at partial heat loads (less than 15000 BTU/hr/evaporator). At these partial heat load conditions, the evaporators must control the Freon outlet temperature to the 40° ± 2°F temperature range.

The performance data for partial load operation are summarized in Table 5-5. The performance, change in evaporant enthalpy , hfg, is shown to be significantly less than that obtained at maximum heat load although this had never been observed during previous development or checkout testing. This low performance is due to the method of DACS calculation and ACE data acquisition. The ACE's system samples data at a frequency of one hertz. If the evaporator is "on" at the time of data sample, then it is assumed "on" during the entire sample time and the sample time is added to the event time. This event time is then used to calculate performance. Since the evaporator has a total cycle (on + off time) of six seconds at partial loads, significant error in the event time may be obtained by the "rounding off" techniques that evolve from the ACE's system. It is concluded that the performance data obtained from DAC's and presented in Table 5-5 is not accurate for the aforementioned reasons.

The capability to control to the 40° ± 2°F is demonstrated in Figures 5-4 through 5-6. Temperature data for test points 10 and 11, shown in Figure 5-4, show that the evaporator was controlled, in general to ± 1°F from the 40°F set point even under the severe inlet temperature ramps going into test point 10. This demonstrated the capability and stability of the on/off control approach to meet the severe temperature control requirements of the Shuttle.

Figures 5-5 and 5-6 show the partial load operation control for test points 12 to 17. As can be seen in the Figures, the outlet temperature

TABLE 5-5
PARTIAL HEAT LOAD OPERATION PERFORMANCE

TEST PT.	FEED-WATER TEMP °F	FEED-WATER SUPPLY, PRESSURE, PSIA	FRECN FLOW (pph)	AVG H_{fg} TOTAL SYSTEM ZH5273	AVG H_{fg} TOTAL SYSTEM ZH5281	EVAP. 1 ZH5271	EVAP. 2 ZH5272
10	125	28.5	2250	700	869	577	857
11	123	28.5	2750	709	707	622	810
12	50	28.5	2750	774	906	663	901
13	50	28.5	2250	759	938	635	908
14	50	28.5	2250	496	661	299	762
15	50	28.5	2750	438	704	228	712
16	130	28.5	2750	---	---	---	---
17	129	28.5	2250	359	664	180	565

*ZH----- readings in BTU/lbm

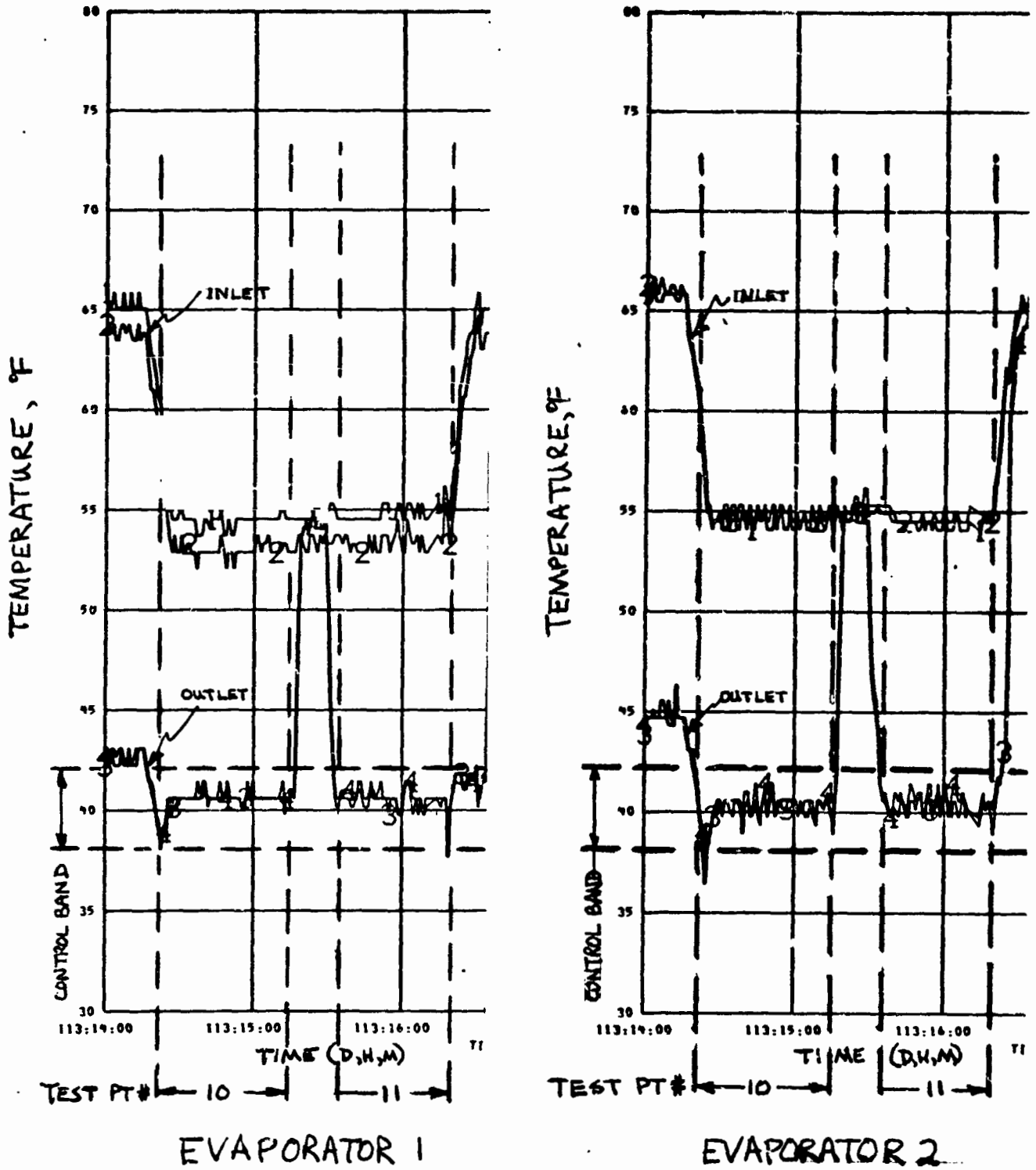


FIGURE 5-4, TRASIENT EVAPORATOR PERFORMANCE

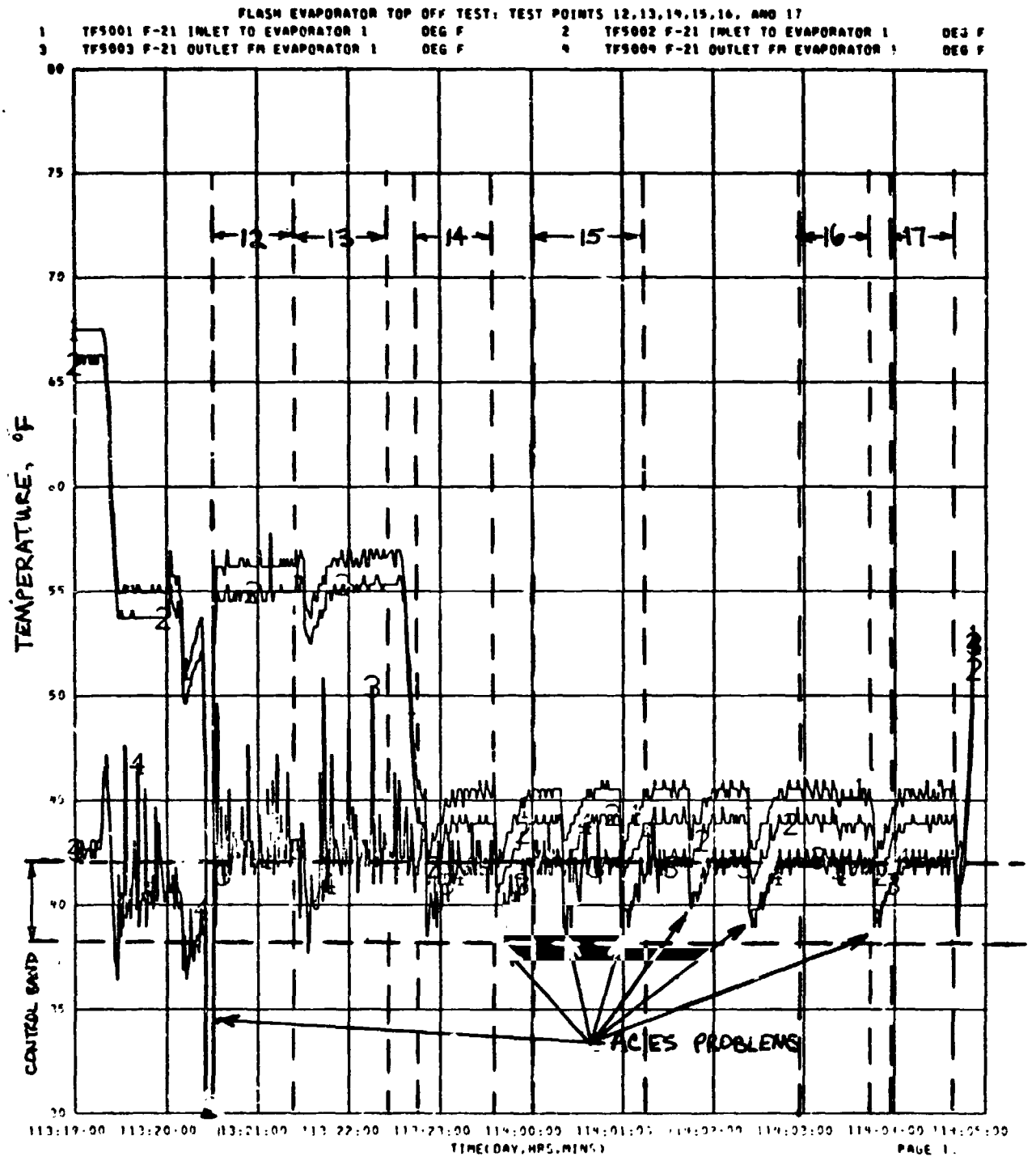


FIGURE 55, EVAPORATOR TRANSIENT PERFORMANCE

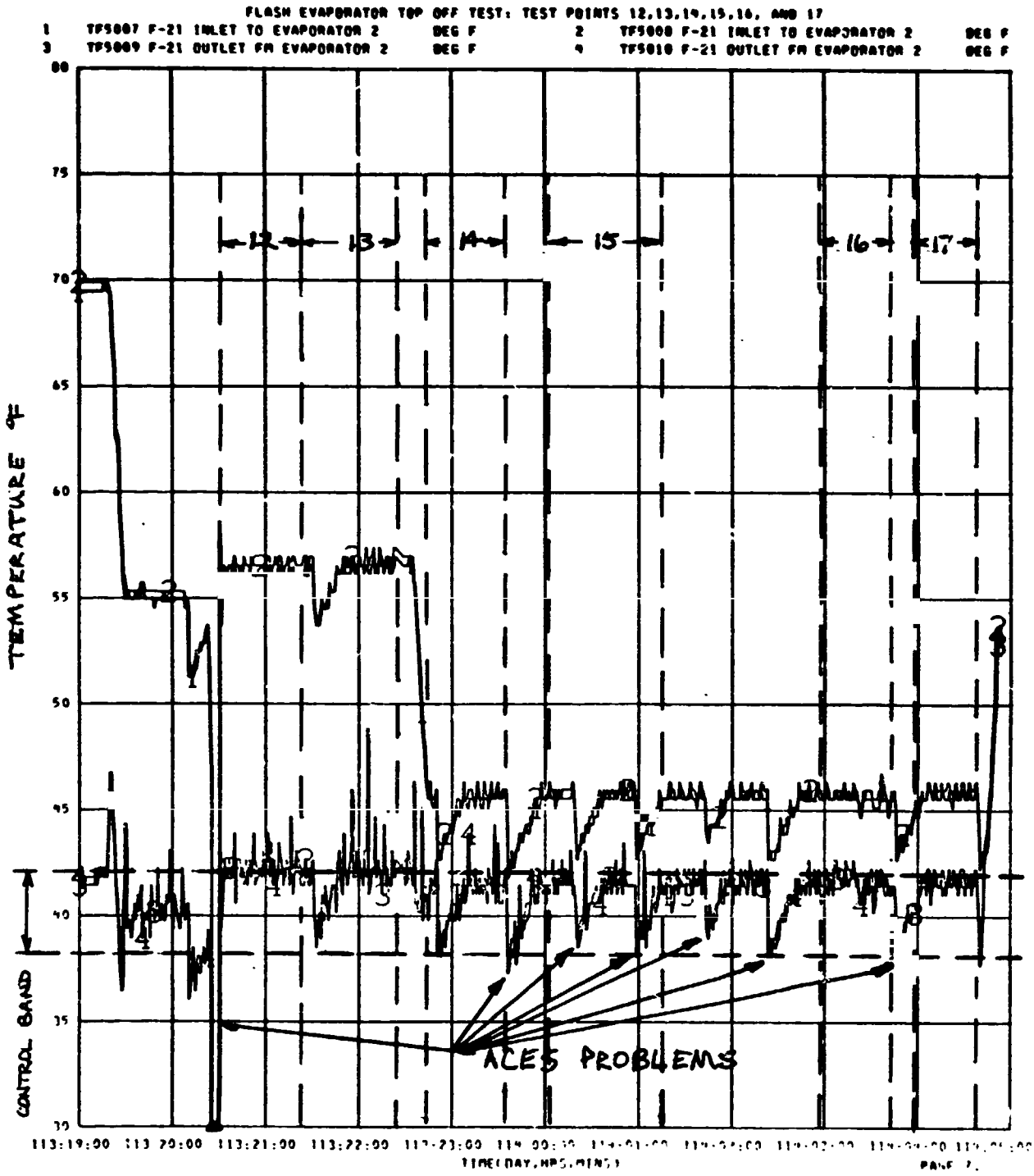


FIGURE 5-6, EVAPORATOR TRANSIENT PERFORMANCE

varied from 38° to 44°F during this testing portion, and that the control set point appeared to be 42°F rather than 40°F. It must be noted, however, that subsequent to test point 12, the ACE's data system suddenly encountered a failure and resumed operation with some noise. Also, sudden drifts in ACE's output were noted six times in the test log during the remaining test points as discussed in Section 5.2. It must be concluded that either both flash evaporator set point electronics all of a sudden drifted to 42°F and stayed there, or that the ACE's data system introduced a 2°F error in readings at approximately 113:20:00. The later is believed to have happened. In any event, the ability to control to a deadband of ± 2°F with widely varying inlet temperatures was demonstrated.

5.6 Loss of Evaporator Cooling

After 4-1/2 hours of operation at test point 18 steady state maximum heat load conditions, evaporator 2 outlet temperature suddenly went from 44°F to 63°F and cooling was lost as seen in Figure 5-7 at 114:10:20. As seen in the figure, the evaporator was operating normally until that time. Three hours later, during test point 19, at 114:15:50 the outlet temperature for evaporator 1 also rose to 63°F with loss of cooling, as shown in Figure 5-8. Again, as with the evaporator 2 cooling loss, the unit was operating normally until that time.

Both test points were based on test point 9 (and test point 11a) evaporator operation conditions with the duct temperatures reduced by 35°F and 50°F respectively. As with test points 9 and 11a, ice particles were emitted from the exhaust nozzle at irregular intervals.

The following observations were made about the events and equipment during operation at the time of test loss of cooling: 1) performance (cooling) was lost in a matter of minutes; 2) both units operated normally until time of cooling loss; 3) both the baratron gage (for unit 2) and the GN_2 line used for possible purging were apparently clogged with ice particles, (the baratron gage loss is described in Section 5.2); 4) flow bench temperature and flowrates were steady (although ACE's readouts showed fluctuations); 5) the duct temperatures were above freezing; 6) and cooling was quickly restored in a matter of a few hours.

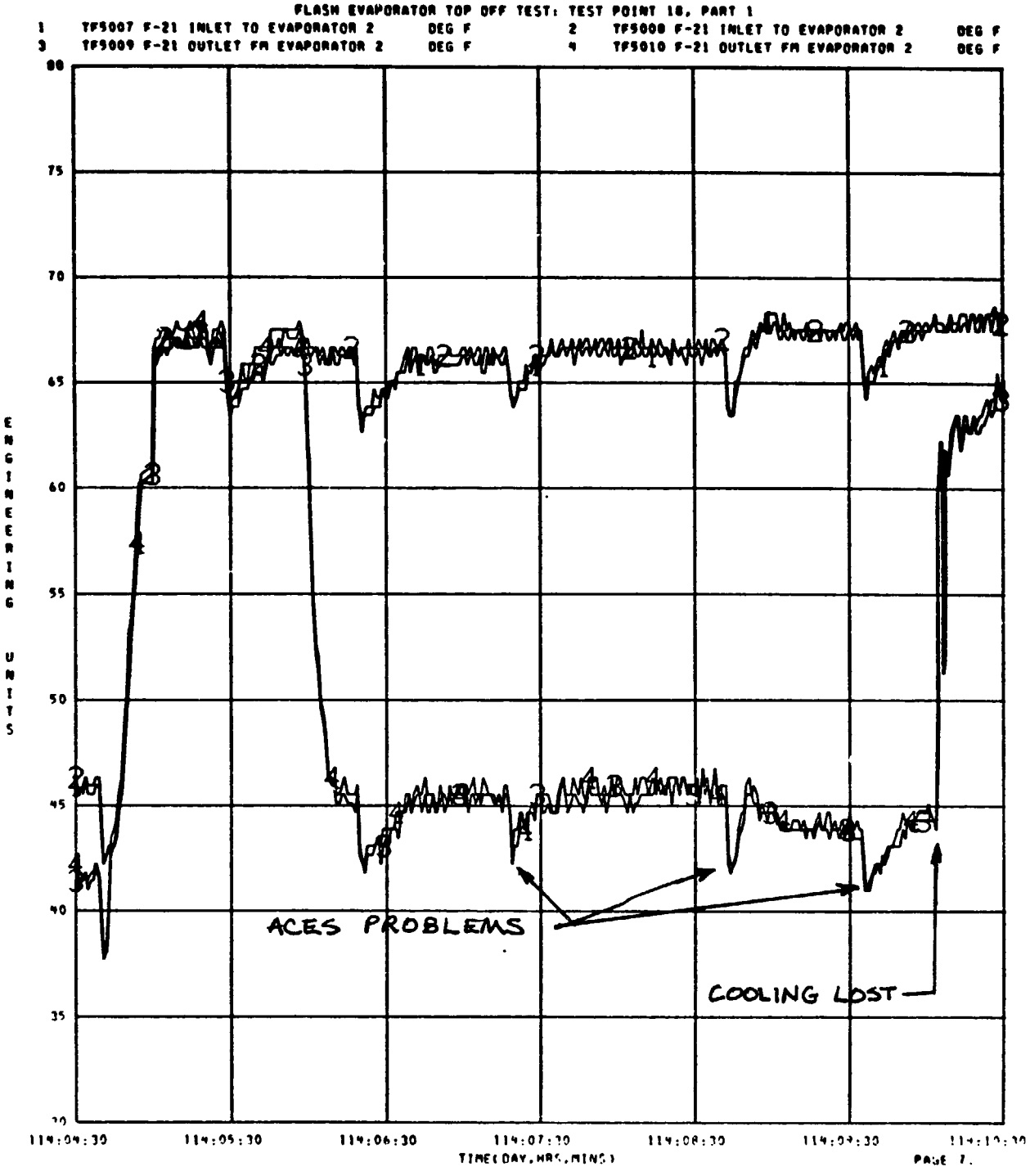


FIGURE 5-7 TEST POINT 18 OPERATION, EVAPORATOR 2

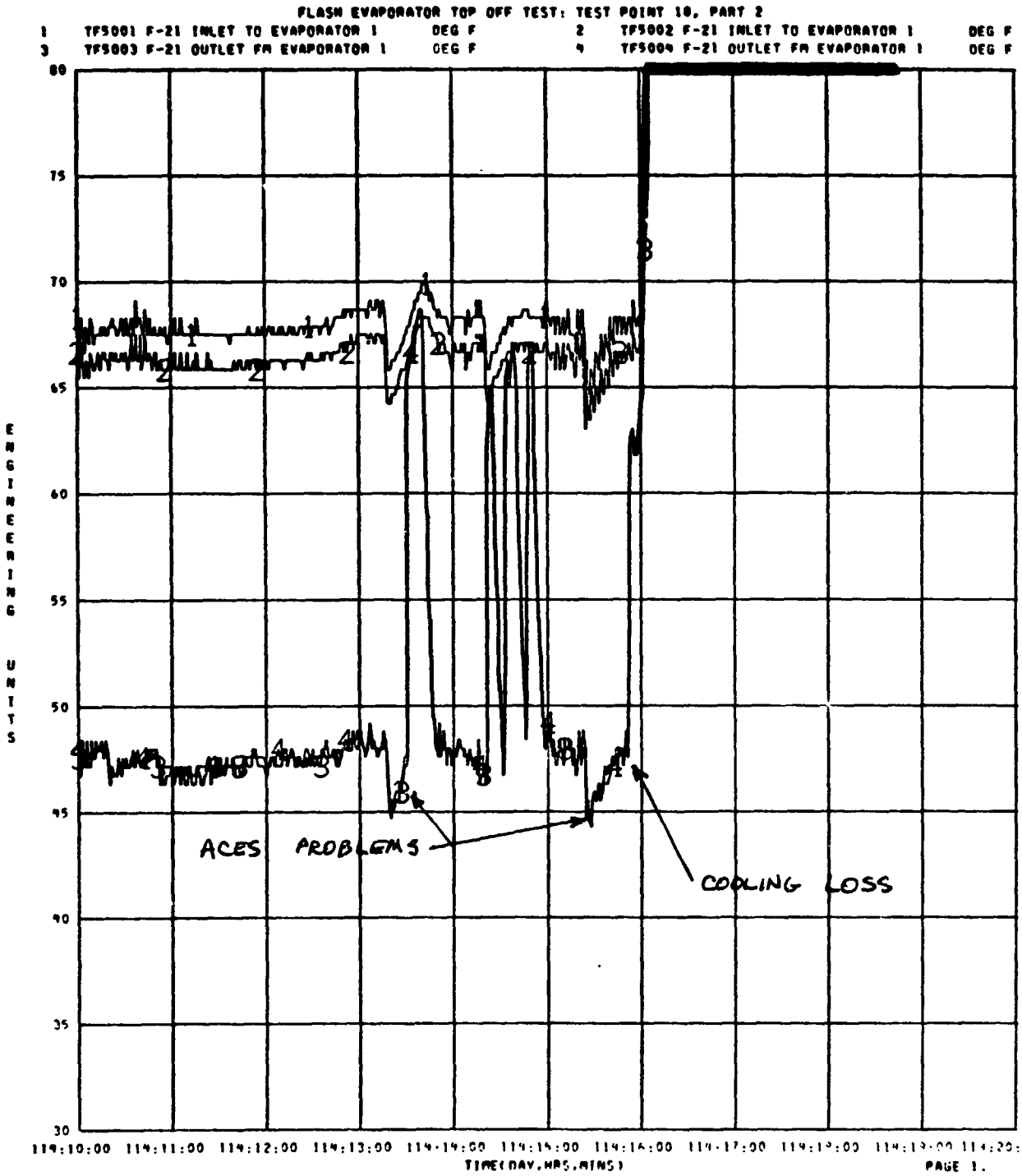


FIGURE 5-8 TEST POINT 18 EVAPORATOR 1 OPERATION

It was concluded from the above observations that ice built up over the spray nozzle from an unheated area of the backcone close to the nozzle, possibly from the baratron or GN_2 ports. The loss of cooling was: not due to the duct; not due to the valve nozzle spray pattern variation since operation was steady; and not due to any ice formation on the core heat transfer surface because partial decay of performance was not observed.

Cooling was also lost during test point 19 on several occasions due to ice buildup in the duct. In each instance of cooling loss, chamber pressure in the evaporator built up to 5 to 7 mmHg prior to temperature rise. In each instance, cooling was restored after heater power in the duct was raised and the ice was melted or evaporated.

5.7 Effect of Duct Temperature on Performance

The effect of duct temperature on evaporator performance was obtained from test points 9, 11a, 18 and 19 and tabulated in Table 5-6 for the case of maximum water vapor carryover. As seen in the table, the duct temperature had no effect on evaporator system performance within the accuracy of the instrumentation. The performance, however, is affected by ice formation and blockage of the duct system. The buildup of ice and duct performance for these test points will be covered by the NASA duct analysis effort.

TABLE 5-6 EFFECT OF DUCT TEMPERATURE ON PERFORMANCE

TEST POINT	AVG Hfg,BTU/HR ZH5273	ZH5281	AVG DUCT TEMP °F
9	821	879	96°F
11a	800	905	117°F
18	779	869	60°F
19	798	-	45°F

*Freon Flowrate : 2250 pph (nom.)
Feedwater Temp : 120°F (nom.)
Freon Inlet Temp : 65°F (nom.)

6.0 TEST RESULTS, SEQUENCE 2

Test sequence 2 of the flash evaporator systems test was run at NASA/JSC Chamber A from 29 to 30 April 1975. The evaporators were again tested in the Shuttle top-off configuration for orbital operation simulation with both evaporators mounted to the non-propulsive duct as shown schematically in Figure 5-1. The objectives of this test sequence are described in Section 3.1. Table 6-1 summarizes the specific test points run and which objective is addressed during the test point. A discussion of the test results obtained are reported below.

TABLE 6-1 SEQUENCE 2 TEST POINT SUMMARY

TEST POINT	PURPOSE
20 thru 28	Determine evaporator performance for maximum and minimum Freon flowrates, variation feedwater inlet temperatures, and variation in duct power (temperatures) for maximum heat load conditions (15000 BTU/hr/evaporator)
38	Re-entry profile (with evaporator 1 only)

6.1 Test Setup Changes/Instrumentation Adequacy

The following test setup changes were made before sequence 2 testing was initiated. a) The water flow meters were completely recalibrated and the ACE's data station was updated to provide better flow instrumentation and performance measurements data. b) The baratron and GN_2 lines to the evaporators were removed to prevent any possibility of frost formation on this unheated backcone section.

The recalibration of the feedwater flow meters resulted in more accurate performance measurements for the two evaporators. The variation in performance between the two evaporators was less than 2%. This difference is consistent with previous development and checkout test results.

No improvements were made in the temperature measurement method and accuracy between test sequences 1 and 2. The same comments regarding the accuracy made in Section 5.2 are applicable for this test sequence. Differences between the same redundant measured temperatures will again affect the performance calculation from 5 to 7% for evaporator 1 at the maximum heat

load condition.

ACE's data aquisition system again demonstrated sudden drops of 2° to 3°F and then climb back to their original values in approximately 15 minutes. This "drift" did not affect the test results, however.

6.2 Effects of Feedwater Temperature, Duct Temperature and Freon Flow on Performance

Test points 20 through 28 were run to obtain the effects of feedwater temperature, duct temperature, and Freon flow on performance. The performance data are summarized on Table 6-2 and Figure 6-1. Figure 6-1 shows the individual evaporator performance, hfg, as obtained from DACS calculations ZH5271 and ZH5272. The difference between the performance of the two evaporators was a maximum of 2% which reflects the improved instrumentation as noted above. Also shown on the Figure is the average performance hfg obtained in test sequence 1 from DACS reading ZH5281 which matches the data from this sequence.

At low feedwater temperatures, the results show approximately 5% water carryover into the duct system. At high feedwater temperatures, the performance show approximately 10% water carryover. This decrease in performance with increased temperature, as noted previously, was due to the order of magnitude higher water droplet vapor pressure causing the droplet to disintegrate into a fine mist which inturn is entrained by the vapor exhausting the evaporator. The use of a elbow anticarryover device planned for the Representative Shuttle Evaporative Heat Sink would have reduced this water carryover significantly.

The effect of duct temperature on performance can be seen in Figure 6-2. As seen in the figure, the performance data does not appear to show any correlatable trend indicating the effects of feedwater temperature dominate and that free flowing duct conditions have no effect on performance.

The effect of Freon 21 flowrate on performance is shown in Figure 6-3. As in test sequence 1, the performance is not affected by Freon flow variation.

TABLE 6-2 TEST SEQUENCE 2 FLASH EVAPORATOR SYSTEM PERFORMANCE

TEST POINT	FEEDWATER TEMP (°F)	NOM. FREON FLOWRATE (PPH)	AVERAGE Hfg (BTU/lbm) ZH5273	AVERAGE Hfg (BTU/lbm) ZH5281	EVAPORATOR 1 Hfg (BTU/lb) ZH5271	EVAPORATOR 2 Hfg (BTU/lb) ZH5272	AVG. DUCT TEMP °F
20	48	2250	1009	1060	1019	999	110
21	80	2250	945	1018	958	933	98
22	100	2250	900	937	912	889	111
23	125	2250	871	-	873	869	63
24	125	2750	865	921	868	862	58
25	47	2750	1011	1074	1010	1011	74
26	125	2750	874	-	880	869	46
27	130	2750	872	901	873	872	42
28	125	2750	870	-	870	870	40

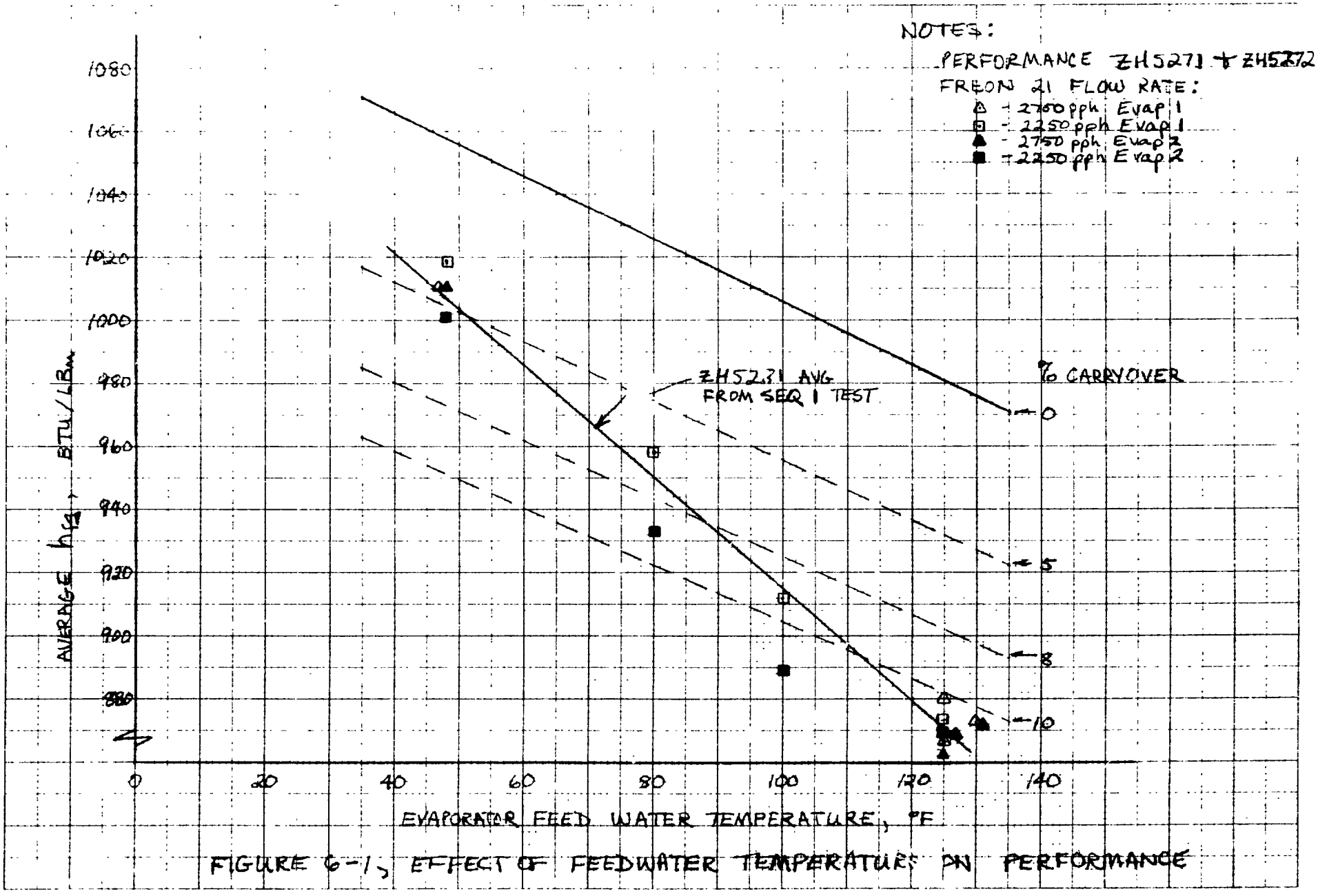


FIGURE 6-1, EFFECT OF FEEDWATER TEMPERATURE ON PERFORMANCE

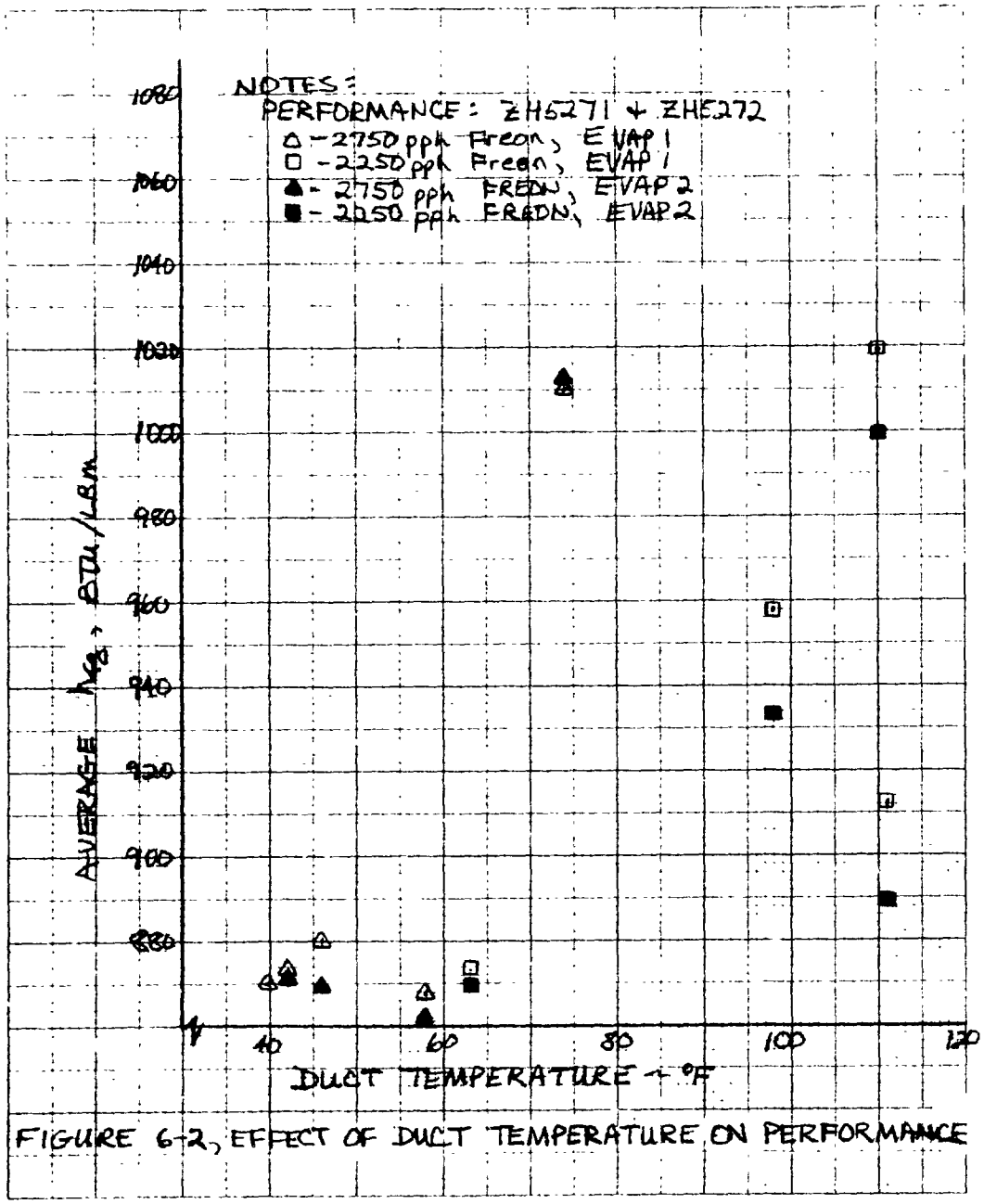


FIGURE 6-2, EFFECT OF DUCT TEMPERATURE ON PERFORMANCE

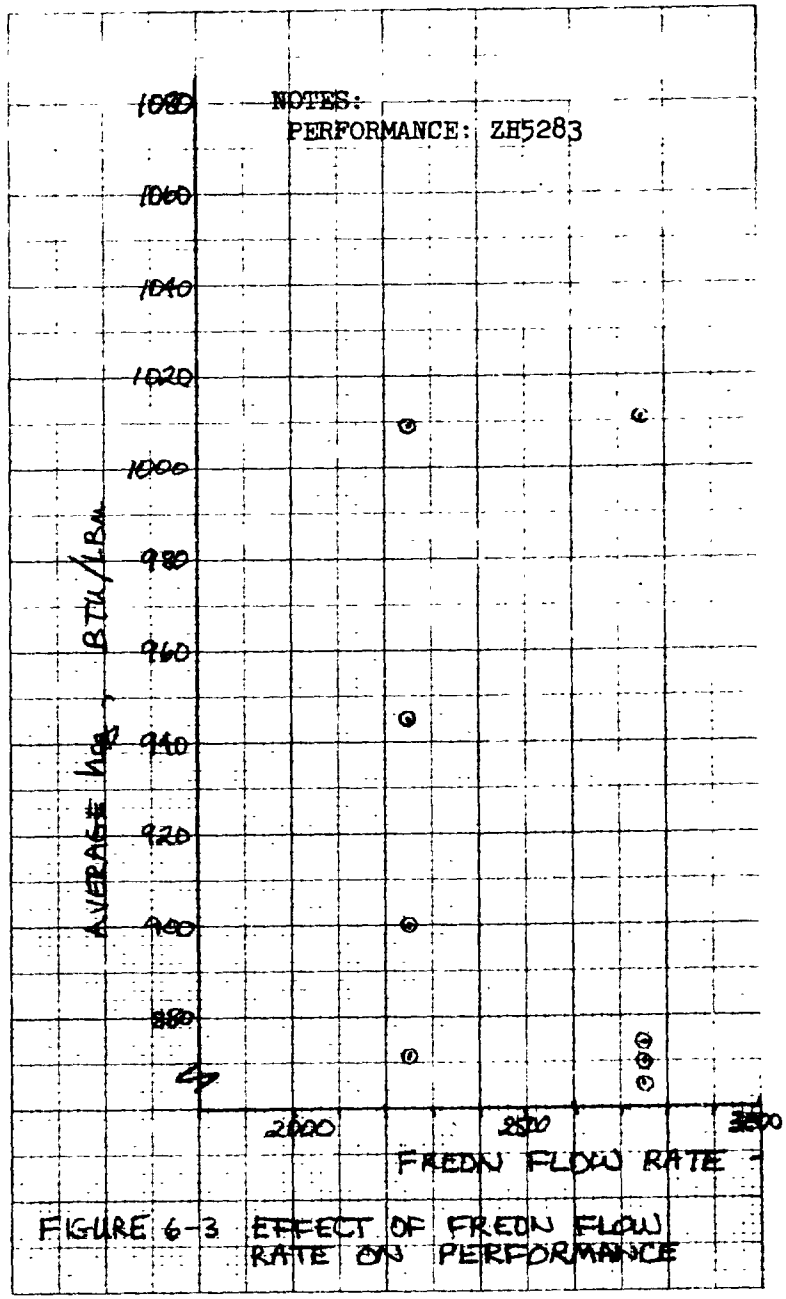


FIGURE 6-3 EFFECT OF FREON FLOW RATE ON PERFORMANCE

6.3 Duct/Nozzle Exhaust Ice

Ice flakes were observed at the nozzle exhaust during all test points 20 through 28. Unlike test sequence 1 which had ice flakes at high feedwater temperatures (120°F) only, the ice flakes for this test sequence were obtained for both low and high feedwater temperatures. The water droplets which are carried over into the duct could form the ice flakes due to the lowering of the vapor stream pressure and could be carried out the nozzles without impinging on the duct walls. Unlike test sequence 1, this condition is apparently not a function of feedwater temperature. Further explanation should be obtained from the NASA duct test analysis effort.

6.4 Re-entry Profile

Cooling was also lost from evaporator 2 during test point 28 and was apparently due to water freezing and blockage within the duct immediately downstream of the evaporator. When the evaporator was turned off manually, no change in the chamber pressure of evaporator 1 was noted leading to the aforementioned duct ice blockage conclusion.

At the conclusion of test point 28, it was decided to run the re-entry profile for the top-off evaporator configuration with only one evaporator operating since considerable time would have been required to thaw the duct ice which blocked the evaporator 2 exhaust.

Figure 6-4 shows the re-entry test profile data of evaporator Freon exit temperature, evaporator chamber pressure, and ambient pressure. As seen in the figure, effective cooling was lost ($T_{out} > 43.4°F$) when chamber and ambient pressures climbed above approximately 5.2 mmHg which is equivalent to a saturation temperature of 35°F.

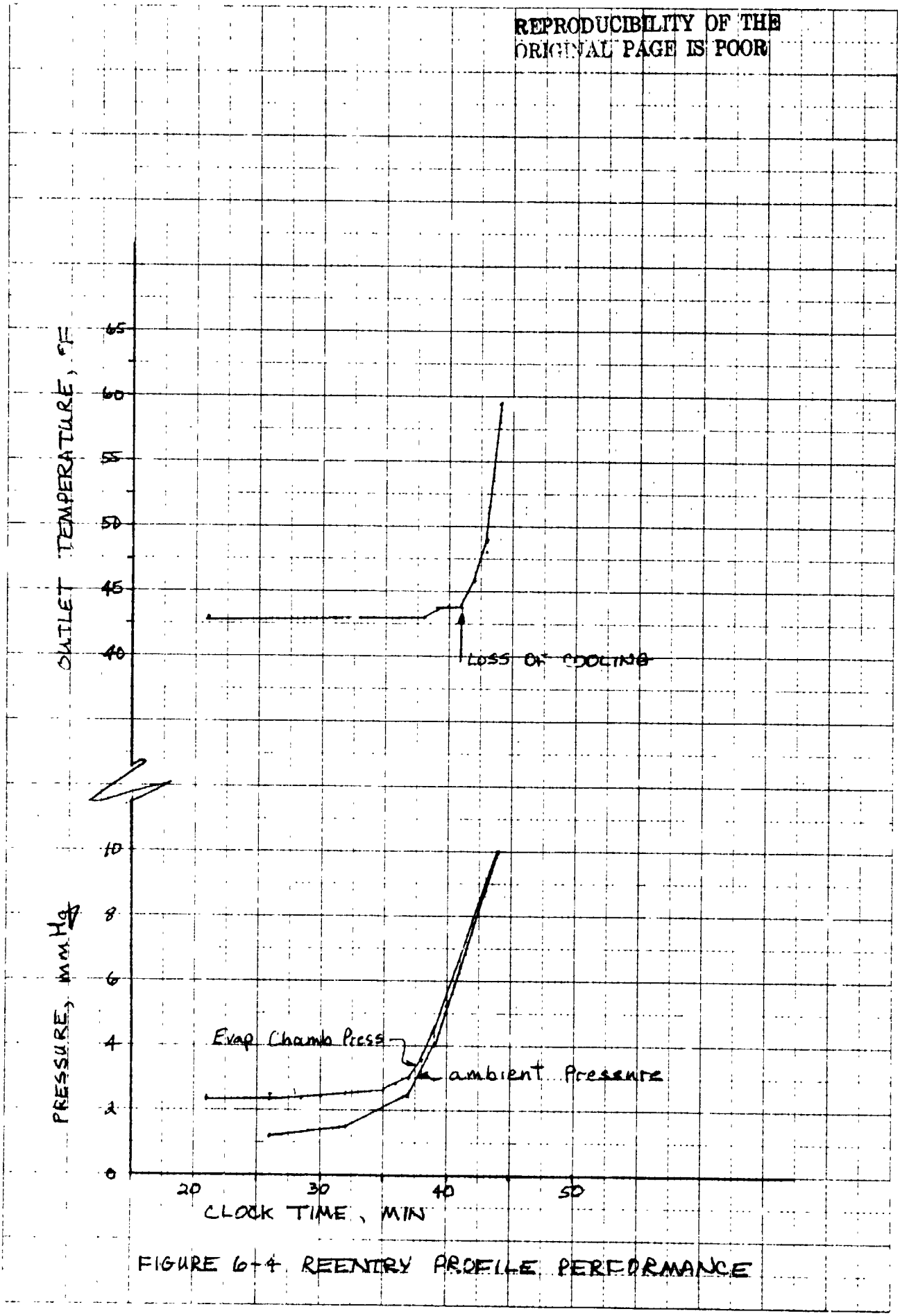


FIGURE 6-4. REENTRY PROFILE PERFORMANCE

7.0 TEST RESULTS, SEQUENCE 3

Test sequence 3 of the flash evaporator system test was run at NASA/JSC Chamber A from 1 May to 2 May 1975. The evaporators were tested in the Shuttle high temperature configuration for re-entry simulation with both evaporators mounted to the 5" diameter re-entry duct as shown schematically in Figure 7-1. The objectives of this sequence are described in Section 3.2. Table 7-1 summarizes the specific test points run and which objective was being addressed during the test point. A discussion of the test results obtained are reported below.

7.1 Instrumentation Performance Adequacy

The instrumentation and ACE's data aquisition system performed adequately during this test sequence. However, the Freon inlet and outlet temperature measurements (which are redundantly made) demonstrated the same inaccuracies between each other as described for sequences 1 and 2 (in Sections 5.2 and 6.1). These inaccuracies in temperature readings do produce less error in heat load and performance calculations due to the large difference between inlet and outlet temperatures. This error is from 2 to 3% for evaporator 1 in the re-entry configuration compared to the 5 to 7% error for the top-off configuration. Again, it is recommended that this temperature error be corrected in future testing to assure accurate performance measurements.

7.2 Abort/Re-entry Performance Simulation

The evaporators were run individually in test points 42 through 46 to simulate the high temperature unit under abort conditions. The data, summarized on Table 7-2 and in Figure 7-2, shows that there is less than 5% water carryover into the exhaust duct for all feedwater temperatures run. The performance does decrease slightly for increasing feedwater temperature as seen in the figure although not as severely as for the top-off configuration.

The 5" diameter duct configuration resulted in evaporator chamber pressures of approximately 3.5 to 4.0 mmHg. These pressures are nearly identical to the chamber pressure design conditions. Operation with both evaporators on simultaneously will therefore result in chamber pressures greater than the design condition.

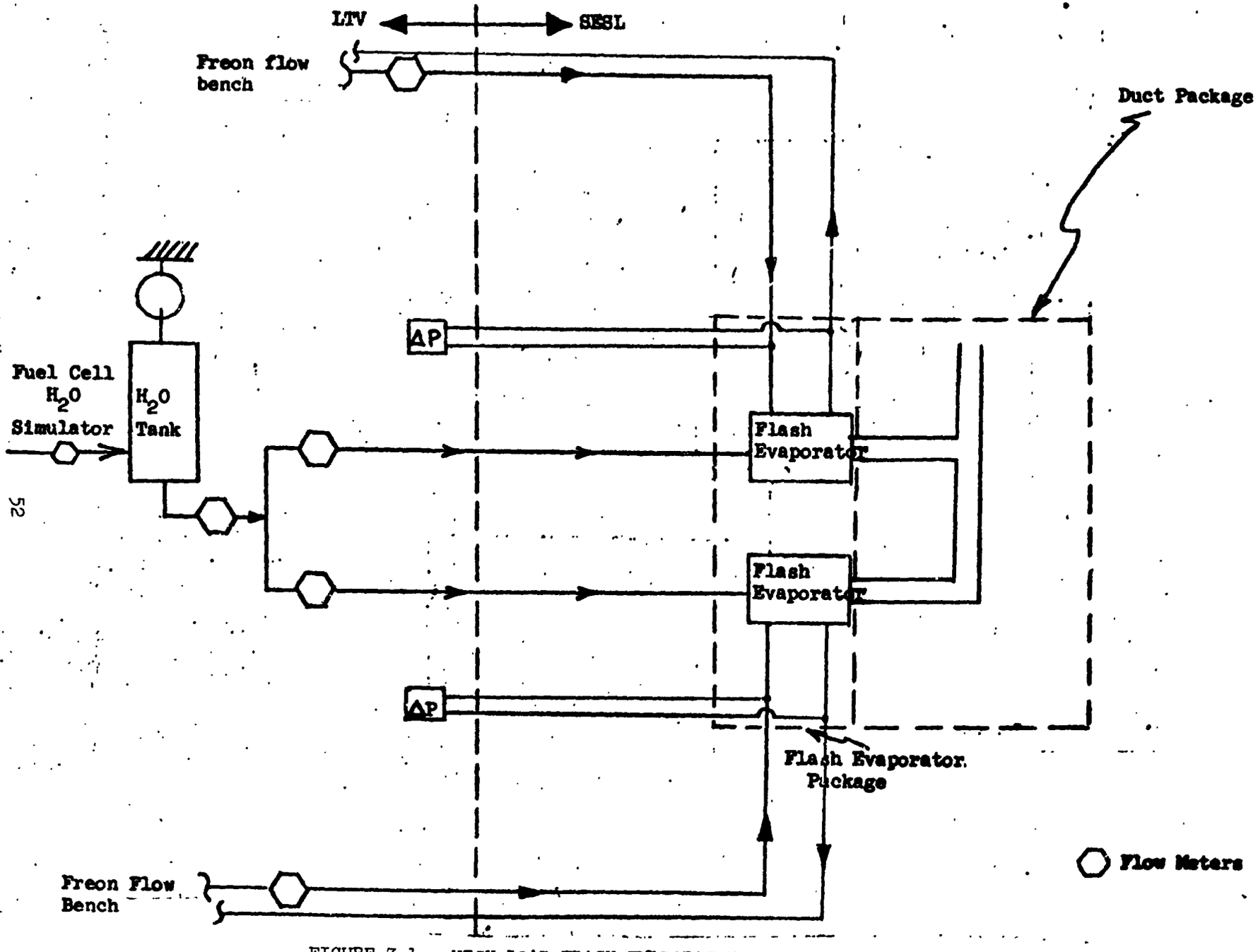


FIGURE 7-1 HIGH LOAD FLASH EVAPORATOR SYSTEM SCHEMATIC

TABLE 7-1

SUMMARY OF SEQUENCE 3 TEST POINTS
(RE-ENTRY/HIGH TEMPERATURE CONFIGURATION)

TEST POINT	PURPOSE
42 thru 44	Evaporator No. 2 flow operating (Evaporator No. 1 flow turned off) to determine evaporator performance at back pressures for only one-half the flow. Determine heater power to maintain duct temperature above freezing.
45 thru 46	Reverse of test points 42-44. Turn Evaporator No. 1 operating and Evaporator No. 2 flow off to determine performance for one-half the total system flow.
47	Both evaporators operating to determine evaporator and duct performance for continuous water flow ("full on") conditions required to reject 50,000 BTU/hr.
50 thru 54	Both evaporators operating to determine performance and to watch for duct freeze-up at various Freon inlet temperatures.
55	Determine performance at 66% of test point 54 duct heater power.
56	Determine performance at 50% of test point 54 duct heater power.
57	Determine performance during the re-entry profile to 11 mmHg.
58	Determine performance at 5 mmHg re-entry pressure hold.
59	Duct freeze-up determination with duct heaters at 4 and 2 watts/ft at vacuum ambient
60	Duct freeze-up determination with duct heaters turned off at vacuum ambient.

TABLE 7-2

RE-ENTRY SIMULATION PERFORMANCE

TEST POINT	FREON INLET TEMP (°F)	FEEDWATER TEMP (°F)	CHAMBER PRESSURE (mmHg)	AVG DUCT TEMP(°F)	AVERAGE hfg ZH5273	AVERAGE hfg ZH5281	EVAP 1 hfg ZH5271	EVAP 2 hfg ZH5272
42	136	80	3.5	60	996	1019	OFF	996
43	138	51	3.5	70	1028	1063	OFF	1029
44	138	122	3.97	60	968	989	OFF	973
45	135	125	3.7	50	904	-	920	OFF
46	139	51	3.7	50	1010	-	1020	OFF
47	159	51	6.2	64	1064	1095	1045	1082
50	153	51	6.2	60	1053	1072	1039	1067
51	148	51	6.3	68	1043	1078	1026	1060
52	140	49	6.8	66	1021	1054	1002	1040
53	134	49	6.3	73	1020	1050	1006	1034
54	136	110	7.4	62	956	978	918	993
55	136	108	8.1	52	967	1006	930	1004
56	136	106	8.7	49	970	1005	933	1007
57	136	100	9.7	52	962	984	940	985
58	136	96	8.5	48	973	1011	953	992
59	136	103	9.1	46	970	993	944	996
60	138	106	8.2	47	957	1016	940	974

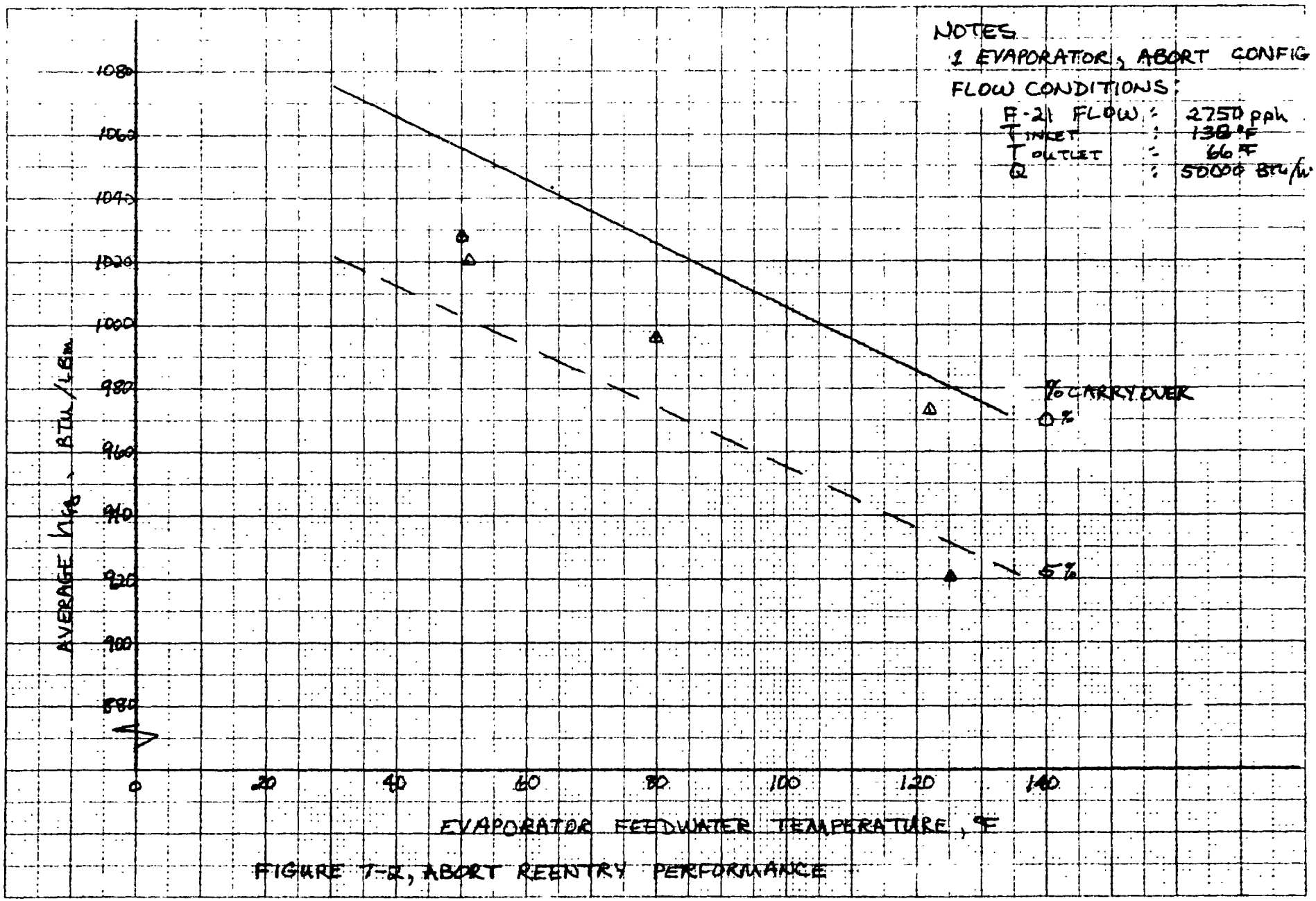


FIGURE T-2, ABORT REENTRY PERFORMANCE

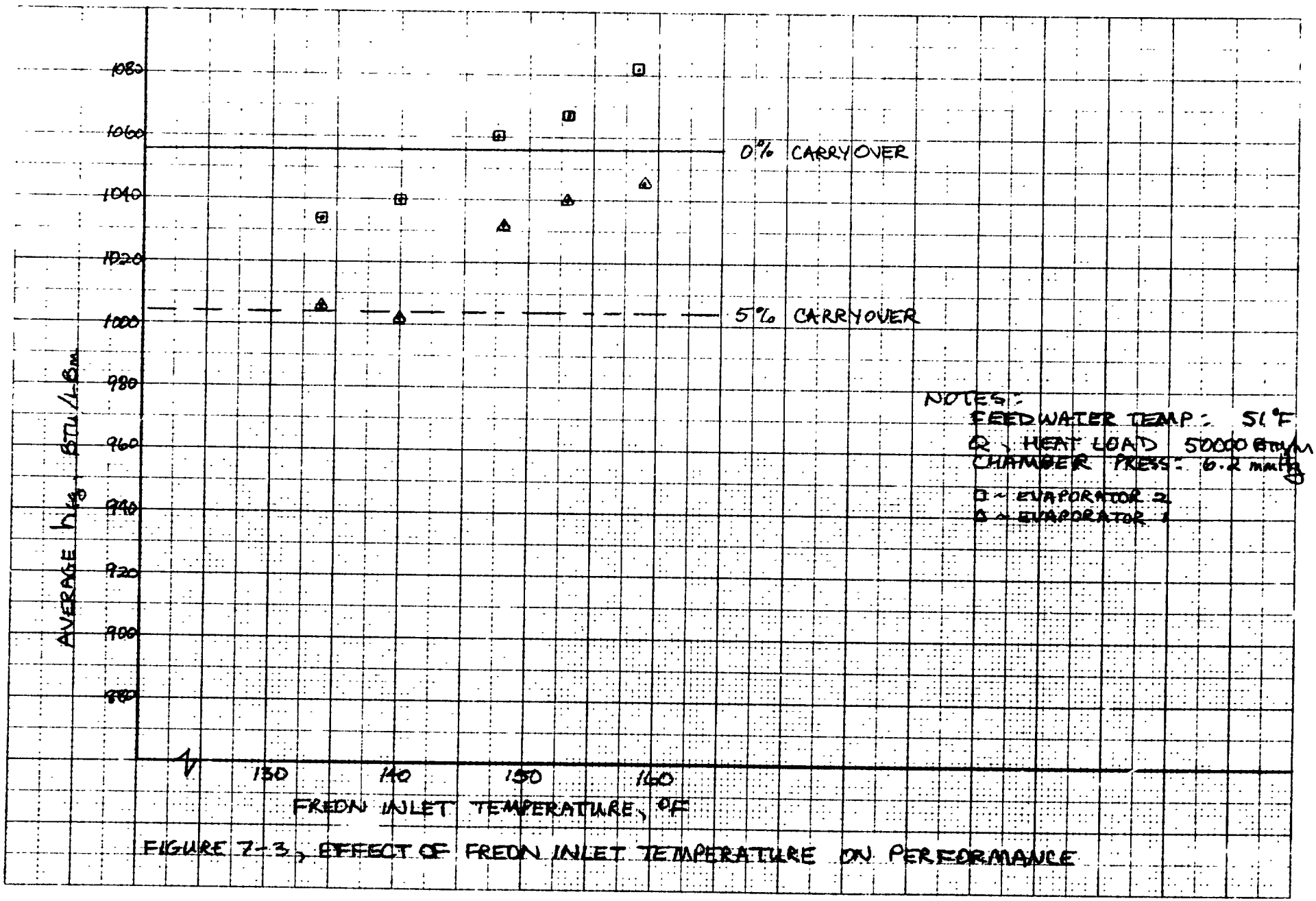


FIGURE 7-3, EFFECT OF FREON INLET TEMPERATURE ON PERFORMANCE

7.3 Nominal Re-entry Performance Simulation

Both evaporators were operating during test points 47 through 53 to obtain performance data for various Freon inlet temperatures for nominal re-entry conditions. The data, summarized on Table 7-2 and Figure 7-3, show that performance is improved slightly for higher Freon temperatures with the carryover going from 5% at a 136°F inlet temperature to 0% at 160°F. (Some data show less than 0% carryover or greater than 100% efficiency. The data accuracy of 2 to 3% affects these performance calculations and thus there is probably no carryover.)

With both evaporators operating, the chamber pressure for both evaporators is 6.2 mmHg. This corresponds to a chamber saturation temperature of 42°F which is approximately 15°F over the design condition. Efficient operation at this higher chamber pressure indicates that the units are not restricted to a narrow operating band.

7.4 Duct Icing Testing

Test points 54 through 60 were run to determine ice buildup rates in the exhaust duct for decreasing amounts of duct heater power. Evaporator operating conditions for these test points resulted in the greatest amount of spray carryover into the ducts. The duct performance and ice buildup analyses are the subject of a separate NASA effort.

Ice formation and buildup at the exhaust duct exit was first visually observed at test point 56. Ice is believed to have started blocking the duct at the beginning of test point 54, however, since the evaporator chamber pressures started out at 6.5 mmHg and increased gradually to the final value of 7.4 mmHg at the end of the test point. The chamber pressure increased throughout each succeeding test point to nearly 9 mmHg.

The evaporator continued to operate efficiently during all the duct "ice buildup" test points. The evaporator performance varied less than 3% for these test points with variation of chamber pressure from 6.2 to 9.1 mmHg and do not show any correlatable trends. It can be concluded that the evaporators have adequate design margin to operate over a wide range of chamber pressures. It has previously been concluded that the higher design chamber pressures are more desirable from an operational standpoint in that there is less likelihood of spray freezing and rebound from the heat trans-

port surface (Reference 5).

7.5 Re-entry Ambient Pressure Simulation

The effects of ambient pressure variation simulating re-entry conditions were run in test point 57. The re-entry test profile data are shown in Figure 7-4. As seen in the figure, effective cooling was lost at an ambient pressure of 10 mmHg. This pressure corresponds to a chamber saturation temperature of approximately 52°F which is 24° higher than the design condition. This indicates that there is considerable design margin built into the hardware which was not anticipated prior to testing.

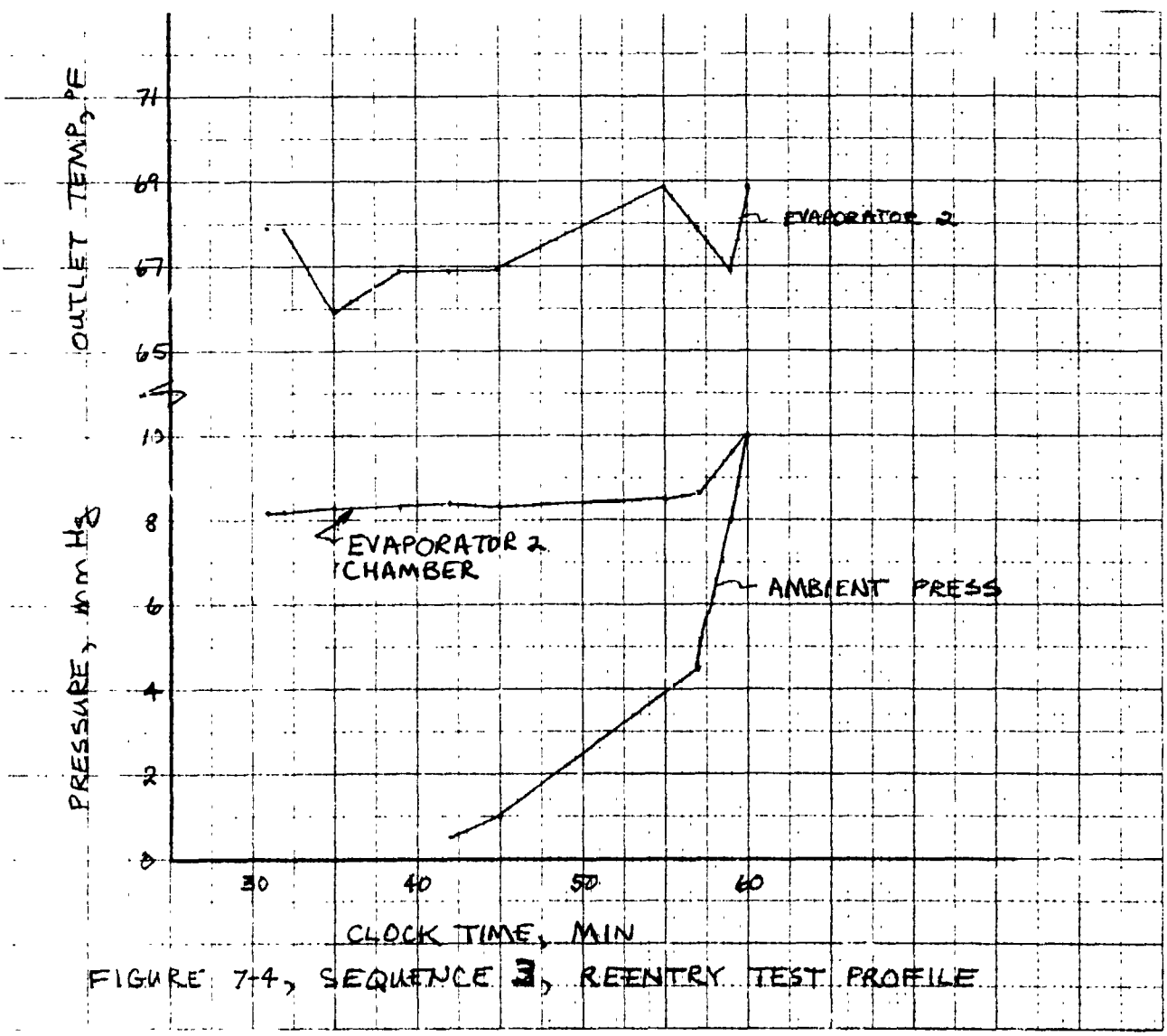


FIGURE 7-4, SEQUENCE 3, REENTRY TEST PROFILE

8.0 REFERENCES

1. "Water Ejector Plume Tests", Vought Corporation Report T169-28, Vol. 6, 16 November 1973

2. "Spraying Flash Evaporator Technology Review", Vought Corporation Presentation at the NASA EC/LS Symposium, NASA-JSC, 25 January 1974

3. "Integrated Radiator/Expendable Cooling Systems Tests", Vought Corporation Report T169-28, Vol. 5, 15 April 1974

4. "Shuttle Active Thermal Control System Development Testing", Intersociety Conference on Environmental Systems, ASME Paper 74-ENAs-43, 29 April 1974

5. "Some Recent Developments in Spacecraft Environmental Control/ Life Support Subsystems", 25th Congress of the IAF, Paper 74-112, 30 September 1974

6. "Development and Parametric Evaluation of the Prototype 2 and 3 Flash Evaporators", Vought Corporation Report T157-76, 18 July 1975

7. "Orbiter Heat Rejection System Flash Evaporator Test Plan", NASA-JSC Report CSD-SH-052, JSC 08743, dated 3/14/75

8. "Flash Evaporator System Instrumentation Recommendations", Vought Corporation informal correspondence to K. Hudkins, 10 December 1974

APPENDIX A

FLASH EVAPORATOR SYSTEM

TEST INSTRUMENTATION DESCRIPTION

OHRS CHAMBER A TEST INSTRUMENTATION

GROUP DESCRIPTION F-21 Temperature

MEASUREMENT NO. LTV	NASA	DESCRIPTION	RANGE	ACCURAC
* T/C AI0001	TF5501 *	Primary Flow Control Valve Inlet	-50 to 200°F	± 1% of range
T/C AI0002	02	Primary Flow Control Valve Flowmeter	"	
T/C AI0003	03	Primary Rad. Panel Total Flow Flowmeter Outlet	"	
T/C AI0004	04	Primary Rad. Panel Total Flow Temp. Controller Outlet	"	
T/C AI0005	05	Secondary Flow Control Valve Flowmeter Outlet	"	
* T/C AI0006	06 *	Secondary Flow Control Valve Inlet	"	
T/C AI0007	07	Secondary Rad. Panel Total Flow Flowmeter Outlet	"	
08	08	Secondary Rad. Panel Total Flow Temp. Control Outlet	"	
09	09	Primary Main Flowmeter Outlet	-200 to 150°F	
10	10	" " " "	"	
11	11	Primary Prime Flowmeter Outlet	"	
12	12	Primary Main Outlet, Rad. Panel #2	"	
13	13	Primary Main Outlet, Rad. Panel #2	"	
14	14	Primary Prime Outlet, Rad. Panel #2	"	
15	15	" " " " " "	"	
16	16	Primary Prime Inlet, Rad. Panel #2	"	
17	17	Primary Prime Inlet, Rad. Panel #2	"	
18	18	Primary Main Inlet, Rad. Panel #2	"	
19	19	" " " " " "	"	
20	20	Primary Main Outlet, Rad. Panel #1	"	
21	21	" " " " " "	"	

*FREON FLOW BENCH MEASUREMENTS USED FOR THE FLASH EVAPORATOR TEST. ALL OTHER MEASUREMENTS ON THIS PAGE ARE USED FOR THE FLOWING RADIATOR TEST IN CHAMBER A.

OHRS CHAMBER A TEST INSTRUMENTATION

GROUP DESCRIPTION F-21 Temperature

MEASUREMENT NO. LTV	MEASUREMENT NO. NASA	DESCRIPTION	RANGE	ACCURACY
T/C AI0022	TF5522	Primary Prime Outlet, Rad. Panel #1	-200 to 150°F	± 1% of range
23	23	" " " " " "	"	
24	24	Primary Prime Inlet, Rad. Panel #1	-50 to 200°F	
25	25	" " " " " "	"	
26	26	Primary Main Inlet, Rad, Panel #1	"	
27	27	" " " " " "	"	
* 28	28 *	Primary Control Temp Out Mix Chamber	0 to 150°F	
* 29	29 *	" " " " " "	"	
* 30	30 *	Secondary Control Temp. Out Mix Chamber	"	
* 31	31 *	Secondary Control Temp. Out Mix Chamber	"	
T/CAI0032	32	Secondary Prime Flowmeter Outlet	-200 to 150°F	
33	33	" " " "	"	
34	34	Secondary Main Flowmeter Outlet	"	
35	35	" " " "	"	
36	36	Secondary Main Outlet, Rad. Panel #2	"	
37	37	" " " " " "	"	
38	38	Secondary Prime Outlet, Rad. Panel #2	"	
39	39	" " " " " "	"	
40	40	Secondary Prime Inlet, Rad. Panel #2	"	
41	41	" " " " " "	"	
42	42	Secondary Main Inlet, Rad. Panel #2	"	
43	43	" " " " " "	"	

*FREON FLOW BENCH MEASUREMENTS USED FOR THE FLASH EVAPORATOR TEST. ALL OTHER MEASUREMENTS ON THIS PAGE ARE USED FOR THE FLOWING RADIATOR TEST IN CHAMBER A.

OHRS CHAMBER A TEST INSTRUMENTATION

GROUP DESCRIPTION F-21 Flow Rates

MEASUREMENT NO. LTV	MEASUREMENT NO. NASA	DESCRIPTION	RANGE	ACCURACY
FM0040	FM5640	Total Flow to Primary Leg	50 to 1400 pph	± 1% of range
FM0041	FM5641	Low Flow to Primary Flow Control Valve	0 to 70 pph	
FM0042	FM5642	Intermediate Flow to Primary Flow Control Valve	25 to 600 pph	
FM0043*	FM5643*	High Flow to Primary Flow Control Valve	100 to 3500 pph	
FM0044	FM5644	Low Flow to Primary Radiator Panels	0 to 200 pph	
FM0045	FM5645	High Flow to Primary Radiator Panel	100 to 2000 pph	
FM0046	FM5646	Total Flow to Secondary Leg	5 to 1400 pph	
FM0047	FM5647	Low Flow to Secondary Flow Control Valve	0 to 70 pph	
FM0048	FM5648	Intermediate Flow to Secondary Flow Control Valve	25 to 600 pph	
FM0049*	FM5649*	High Flow to Secondary Flow Control Valve	100 to 3500 pph	
FM0050	FM5650	Low Flow to Secondary Radiator Panels	0 to 200 pph	
FM0051	FM5651	High Flow to Secondary Radiator Panels	100 to 2000 pph	
FM0052	FM5652	Primary Main Low Flow	0 to 50 pph	
FM0053	FM5653	Primary Main Intermediate Flow	0 to 200 pph	
FM0054	FM5654	Primary Main High Flow	100 to 2000 pph	
FM0055	FM5655	Primary Prime Flow	0 to 70 pph	
FM0056	FM5656	Secondary Prime Flow	0 to 70 pph	
FM0057	FM5657	Secondary Main High Flow	100 to 2000 pph	
FM0058	FM5658	Secondary Main Intermediate Flow	0 to 200 pph	
FM0059	FM5659	Secondary Main Low Flow	0 to 50 pph	
FM0060*	FM5660*	Total Flow	100 to 3500 pph	

(0 - 5 volt signals on all flow meters.)

*FREON FLOW BENCH MEASUREMENTS USED FOR THE FLASH EVAPORATOR TEST. ALL OTHER MEASUREMENTS ON THIS PAGE ARE USED FOR THE FLOWING RADIATOR TEST IN CHAMBER A.

OHRS CHAMBER A TEST INSTRUMENTATION

GROUP DESCRIPTION Evaporator Segment Temperatures

MEASUREMENT NO. LTV	NASA	DESCRIPTION	RANGE	ACCURACY
T/C AF0001	TF5001	F-21 Inlet to Evaporator #1	0° to 200°F	± 1% of range
2	TF5002	F-21 Inlet to Evaporator #1		
3	TF5003	F-21 Outlet from Evaporator #1		
4	TF5004	F-21 Outlet from Evaporator #1		
5	TW5005	Water Inlet to Evaporator # 1		
6	TW5006	Water Inlet to Evaporator # 1		
7	TF5007	F-21 Inlet to Evaporator # 2		
8	TF5008	F-21 Inlet to Evaporator # 2		
9	TF5009	F-21 Outlet from Evaporator #2		
T/C AF0010	TF5010	F-21 Outlet from Evaporator #2		
11	TW5011	Water Inlet to Evaporator #2		
12	TW5012	Water Inlet to Evaporator #2		
13	TD5013	Evaporator Top-Off Duct	-100° to 250°F	
14	TD5014			
15	TD5015			
16	TD5016			
17	TD5017			
18	TD5018			
19	TD5019			
20	TD5020			
21	TD5021			
22	TD5022			
23	TD5023	Evaporator Re-entry Duct		
24	TD5024			
25	TD5025			
26	TD5026			
27	TD5027			
28	TD5028			
29	TD5029			
30	TD5030			
31	TD5031			
32	TD5032	Evaporator Exhaust Re-entry Duct		
33	TD5033			
34	TD5034			
35	TD5035			
36	TD5036			
37	TD5037			
38	TD5038			
39	TD5039			

OHRS CHAMBER A TEST
INSTRUMENTATION

GROUP DESCRIPTION Evaporator Segment Pressures

MEASUREMENT NO. LTV	MEASUREMENT NO. NASA	DESCRIPTION	RANGE	ACCURAC
PF0001	PN5051	Water Tank GN_2 Pressure	0 to 150 lbs (0 to 1.5 v.)	± 0.1
PF0002	PF5052	F-21 Differential Pressure, Evap#1	0 to 10 psid (0 to 1 volt)	± 0.5
PF0003	PF5053	F-21 Differential Pressure, Evap#2	0 to 10 psid	± 0.5
PF0004	PW5054	Water Supply Pressure to Evap #1	0 to 50 psia	± 0.5
PF0005	PW5055	Water Supply Pressure to Evap #2	0 to 50 psia	± 0.5
PF0006	PE5056	Evap #1 Chamber Pressure	0.1 to 10 torr	± 1% of
PF0007	PE5057	Evap #2 Chamber Pressure	0.1 to 10 torr	range
PF0008	PD5058	Exhaust Duct Pressure (ΔP 1)	.01 to 1 torr	
PF0009	PD5059	Exhaust Duct Pressure (ΔP 3)	.01 to 1 torr	
PF0010	PD5060	Exhaust Duct Pressure (ΔP 4)	.01 to 1 torr	
PF0011	PD5061	Exhaust Duct Pressure (P 26)	0.1 to 10 torr	
PF0012	PD5062	Exhaust Duct Pressure (P 28)	0.1 to 10 torr	
PF0013	PD5063	Exhaust Duct Pressure (P 27)	0.1 to 10 torr	
PF0014	PD5064	Exhaust Duct Pressure (P 24)	.001 to .1 torr	
PF0015	PD5065	Exhaust Duct Pressure (ΔP 2)	.01 to 1 torr	
PF0016	PD5066	Exhaust Duct Pressure (ΔP 5)		
PF0017	PD5067	Exhaust Duct Pressure (ΔP 7)		
PF0018	PD5068	Exhaust Duct Pressure (ΔP 8)		
PF0019	PD5069	Exhaust Duct Pressure (ΔP 9)		
PF0020	PD5070	Exhaust Duct Pressure (ΔP 6)		
PF0021	PD5071	Exhaust Duct Pressure (P 21)	.001 to .1 torr	

GROUP DESCRIPTION Water Flow Rates

MEASUREMENT NO. LTV	MEASUREMENT NO. NASA	DESCRIPTION	RANGE	ACCURACY
FW0001	FW5081	Total Water Flow Rate to Evaporator	0 to 120 pph	± 1.2
FW0002	FW5082	Water Flow Rate to Flash Evaporator	0 to 100 pph	± 1.0
FW0003	FW5083	Water Flow Rate to Flash Evaporator	0 to 100 pph	± 1.0

OHRS CHAMBER A TEST
INSTRUMENTATION

GROUP DESCRIPTION Heater Power

MEASUREMENT NO. LTV	MEASUREMENT NO. NASA	DESCRIPTION	RANGE	ACCURACY
	HI5170	Top-Off Duct Heater Current 1	2 amps	± 1% of range
	HI5171	Top-Off Duct Heater Current 2	2 amps	
	HI5172	Top-Off Duct Heater Current 3	5 amps	
	HI5173	Top-Off Duct Heater Current 4	6 amps	
	HI5174	Reentry Duct Heater Current 1	5 amps	
	HI5175	Reentry Duct Heater Current 2	4 amps	
	HI5176	S. S. Nozzle Heater Current 1	1 amps	
	HI5177	S. S. Nozzle Heater Current 2	1 amps	
	HI5178	Reentry Duct Heater Current 3	4 amps	

GROUP DESCRIPTION Water Tank Weight

MEASUREMENT NO. LTV	MEASUREMENT NO. NASA	DESCRIPTION	RANGE	ACCURACY
WF0001	WT5091	Water Tank Weight	0 to 150 lb. (0 to 1.5 v)	± 1.5 lbs.

GROUP DESCRIPTION Signal Events

MEASUREMENT NO. LTV	MEASUREMENT NO. NASA	DESCRIPTION	RANGE	ACCURACY
	EV5161	Controller Valve Signal Event, Evaporator #1	28 vdc	
	EV5162	Controller Valve Signal Event, Evaporator #2	28 vdc	

NOTE: CONTROLLER VALVE SIGNAL EVENT MEASUREMENTS FOR ACE CALCULATIONS ARE YES = 1 AND NO = 0.

APPENDIX B

ACE DATA CALCULATIONS

FOR

FLASH EVAPORATOR SYSTEM TEST

FLASH EVAPORATOR ACE CALCULATION REQUIREMENTS

MEASUREMENT NO.	DESCRIPTION	EQUATION	MEASUREMENTS USED
ZQ 5201	Instantaneous Heat Rejection, Evap. 1	$q_1 = M_{F-21} Cp(Tin-Tout)$ (BTU/hr) $Cp = 0.411-(.83\times10^{-3}T)+(10^{-6}T^2)$ $T=\left(\frac{Tin+Tout+919.38}{2}\right)$	M_{F-21} = FM5643 Tin = TF5002* TF5001(b) Tout = TF5004* TF5003(b)
ZQ 5202	Instantaneous Heat Rejection, Evap. 2	$q_2 = M_{F-21} Cp(Tin-Tout)$ (BTU/hr) $Cp = 0.411-(.83\times10^{-3}T)+(10^{-6}T^2)$ $T=\left(\frac{Tin+Tout+919.38}{2}\right)$	M_{F-21} = FM5649 Tin = TF5008* TF5007(b) Tout = TF5010* TF5009(b)
ZQ 5203	Instantaneous Heat Rejection, Total	$q = q_1 + q_2$ (BTU/hr)	q_1 = ZQ5201 q_2 = ZQ5202
ZQ 5211	Total Heat Rejection Evap. 1	$QT_1 = \sum_{t=0}^{t} q_1 \Delta t$ (BTU)	q_1 = ZQ5201 Δt = (Note 1)
ZQ 5212	Total Heat Rejection Evap. 2	$QT_2 = \sum_{t=0}^{t} q_2 \Delta t$ (BTU)	q_2 = ZQ5202 Δt = (Note 1)
ZQ 5213	Total Heat Rejection	$QT = QT_1 + QT_2$ (BTU)	QT_1 = ZQ5211 QT_2 = ZQ5212
ZW 5221	Water Flow, Evap. 1	$M_{T_1} = \sum_{t=0}^{t} M_{H_2O} \Delta t$ (lbs)	M_{H_2O} = FW5082 Δt = (Note 1)
ZW 5222	Water Flow, Evap. 2	$M_{T_2} = \sum_{t=0}^{t} M_{H_2O} \Delta t$ (lbs)	M_{H_2O} = FW5083 Δt = (Note 1)
ZW 5223	Total Water Flow	$M_T = M_{T_1} + M_{T_2}$ (lbs)	M_{T_1} = ZW5221 M_{T_2} = ZW5222

MEASUREMENT NO.	DESCRIPTION	EQUATION	MEASUREMENTS USED
ZW 5224	Water Tank Differential Weight	$W_T = W_{t_o} - Wt$ (lbs)	$W_{t_o} = (WT5091)_{t=0}$ $W_t = WT5091$
ZE 5231	Signal Event Total Evap 1	$S_{T_1} = \sum_{t=0}^{t} S \ \Delta t$ (hrs)	$S = EV5161$ $\Delta t = (Note\ 1)$
ZE 5232	Signal Event Total Evap 2	$S_{T_2} = \sum_{t=0}^{t} S \ \Delta t$ (hrs)	$S = EV5162$ $\Delta t = (Note\ 1)$
ZE 5234	Total Test Time	$t_T = \sum_{t=0}^{t} \Delta t$ (hrs)	
ZQ 5241	Average Heat Load (A), Evap. 1	$q_{a_1} = \frac{QT_1}{t_T}$ (BTU/hr)	$Q_{T_1} = ZQ5211$ $t_T = ZE5234$
ZQ 5242	Average Heat Load (A), Evap. 2	$q_{a_2} = \frac{QT_2}{t_T}$ (Btu/hr)	$Q_{T_2} = ZQ5212$ $t_T = ZE5234$
ZQ 5243	Average Heat Load (A), Total	$q_a = \frac{QT}{t_T}$ (BTU/hr)	$QT = ZQ5213$ $t_T = ZE5234$
ZQ 5251	Average Heat Load (B), Evap. 1	$q_{b_1} = \frac{ST_1}{t_T} Q_{max1}$ (BTU/hr)	$S_{T_1} = ZE5231$ $t_T = ZE5234$ $Q\ max_1 = (\quad)$
ZQ 5252	Average Heat Load (B), Evap. 2	$q_{b_2} = \frac{S_{T_2}}{t_T} Q_{max2}$ (BTU/hr)	$S_{T_2} = ZE5232$ $t_T = ZE5234$ $Q_{max_2} = (\quad)$

MEASUREMENT NO.	DESCRIPTION	EQUATION	MEASUREMENTS USED
ZQ 5253	Average Heat Load (B), Total	$q_b = q_{b_1} + q_{b_2}$ (BTU/hr)	q_{b_1} = ZQ5251 q_{b_2} = ZQ5252
ZF 5261	Average Water Usage (A), Evap. 1	$M_{a_1} = \frac{MT_1}{t_T}$ (lbs/hr)	M_{T_1} = ZW5221 t_T = ZE5234
ZF 5262	Average Water Usage (A), Evap. 2	$M_{a_2} = \frac{MT_2}{t_T}$ (lbs/hr)	M_{T_2} = ZW5222 t_T = ZE5234
ZF 5263	Average Water Usage (A), Total	$M_a = \frac{MT}{t_T}$ (lbs/hr)	M_T = ZW5223 t_T = ZE5234
ZF 5264	Average Water Usage (B)	$M_b = \frac{WT}{t_T}$ (lbs/hr)	W_T = ZW5224 t_T = ZE5234
ZH 5271	Average Enthalpy Change (A), Evap. 1	$h_{a_1} = \frac{qa_1}{M_{a_1}}$ (BTU/lb)	q_{a_1} = ZQ5241 M_{a_1} = ZF5261
ZH 5272	Average Enthalpy Change (A), Evap. 2	$h_{a_2} = \frac{q_{a_2}}{M_{a_2}}$ (BTU/lb)	q_{a_2} = ZQ5242 M_{a_2} = ZF5262
ZH 5273	Average Enthalpy Change (A), Total	$h_a = \frac{QT}{MT}$ (BTU/lb)	h_{a_1} = ZH5271 h_{a_2} = ZH5272
ZH 5281	Average Enthalpy Change (B)	$h_b = \frac{qa}{M_b}$ (BTU/lb)	q_a = ZQ5243 M_b = ZW5264

MEASUREMENT NO.	DESCRIPTION	EQUATION	MEASUREMENTS USED
ZT 5311	Maximum F-21 Outlet Temp., Evap. 1	(Compare all F-21 Outlet Temperatures)	TF5003(b) TF5004*
ZT 5312	Maximum F-21 Outlet Temp., Evap. 2	(Compare all F-21 Outlet Temperatures)	TF5009(b) TF5010*
ZT 5301	Minimum F-21 Outlet Temp., Evap. 1	(Compare all F-21 Outlet Temperatures)	TF5003(b) TF5004*
ZT 5302	Minimum F-21 Outlet Temp., Evap. 2	(Compare all F-21 Outlet Temperatures)	TF5009(b) TF5010*
ZD 5321	Top-Off Duct Heater Power 1	$P_{T1} = \frac{I^2(T+433.2)}{43.93}$ (watts)	I=HI5170 T=ZD5351
ZD 5322	Top-Off Duct Heater Power 2	$P_{T2} = \frac{I^2(T+3433)}{114.8}$ (watts)	I=HI5171 T=ZD5352
ZD 5323	Top-Off Duct Heater Power 3	$P_{T3} = \frac{I^2(T+421.7)}{32.63}$ (watts)	I=HI5172 T=ZD5353
ZD 5324	Top-Off Duct Heater Power 4	$P_{T4} = \frac{I^2(T+2996)}{75.79}$ (watts)	I=HI5173 T=ZD5354
ZD 5331	Re-entry Duct Heater Power 1	$P_{R1} = \frac{I^2(T+416.1)}{33.22}$ (watts)	I=HI5174 T=ZD5355
ZD 5332	Re-entry Duct Heater Power 2	$P_{R2} = \frac{I^2(T+420.2)}{32.34}$ (watts)	I=HI5175 T=ZD5356
ZN 5341	S. S. Nozzle Heater Power 1	$P_{N1} = 277\ I^2$ (watts)	I=HI5176
ZN 5342	S. S. Nozzle Heater Power 2	$P_{N2} = 277\ I^2$ (watts)	I=HI5177

NOTE 1: Δt is the standard sampling rate for all the ACE calculations

* Primary measurements to be used in the calculations. Backup measurements denoted by (b), can be used by C-start in the event of a primary measurement failure.

MEASUREMENT NO.	DESCRIPTION	EQUATION	MEASUREMENTS USED
ZD5351	Avg. Temp, Top-Off Duct Heater 1	$T = \frac{T_1 + T_2 + T_3}{3}$	T_1 = TD5039 T_2 = TD5038 T_3 = TD5014
ZD5352	Avg. Temp, Top-Off Duct Heater 2	$T = \frac{T_1 + T_2 + T_3}{3}$	T_1 = TD5013 T_2 = TD5037 T_3 = TD5015
ZD5353	Avg. Temp, Top-Off Duct Heater 3	$T = \frac{T_1 + T_2 + T_3}{3}$	T_1 = TD5016 T_2 = TD5021 T_3 = TD5022
ZD5354	Avg. Temp, Top-Off Duct Heater 4	$T = \frac{T_1 + T_2 + T_3}{3}$	T_1 = TD5019 T_2 = TD5017 T_3 = TD5016
ZD5355	Avg. Temp, Reentry Duct Heater 1	$T = \frac{T_1 + T_2 + T_3 + T_4}{4}$	T_1 = TD5027 T_4 = TD5030 T_2 = TD5028 T_3 = TD5029
ZD5356	Avg. Temp, Reentry Duct Heater 2	$T = \frac{T_1 + T_2 + T_3}{3}$	T_1 = TD5031 T_2 = TD5032 T_3 = TD5036
ZD5357	Avg. Temp, Nozzle Heater 1	$T = \frac{T_1 + T_2}{2}$	T_1 = TD5023 T_2 = TD5024
ZD5358	Avg. Temp, Nozzle Heater 2	$T = \frac{T_1 + T_2}{2}$	T_1 = TD5025 T_2 = TD5026
ZD5359	Avg. Temp, Reentry Duct Heater 3	$T = \frac{T_1 + T_2 + T_3}{3}$	T_1 = ZD5033 T_2 = ZD5034 T_3 = ZD5035
ZD5333	Reentry Duct Heater Power 3	$P_{R_3} = \frac{I^2(T+345.3)}{17.54}$ (watts)	I = HI517 T = ZD5359

APPENDIX C

SCOOP TEST DATA

C-4

DATA AT END OF TEST POINT 1

PAGE 01 CSD 19/EVAP SCOOP (10005) CHAMBER A DAY 112, 21 HRS, 00 MIN, 00 SEC

-MID-	---DESCRIPTION----	---VALUE---	----LIMITS----		-MID-	---DESCRIPTION----	---VALUE---	----LIMITS----	
✓	TF5001 F-21 IN TO EVAP 1	63.0 DEGF	-409.5	409.5	✓	TF5007 F-21 IN TO EVAP 2	63.6 DEGF	-409.5	409.
✓	TF5002 F-21 IN TO EVAP 1	61.6 DEGF	-409.5	409.5	✓	TF5008 F-21 IN TO EVAP 2	63.4 DEGF	-409.5	409.5
✓	TF5003 F-21 OUT OF EVAP 1	42.7 DEGF	-409.5	409.5	✓	TF5009 F-21 OUT OF EVAP 2	42.1 DEGF	-409.5	409.5
✓	TF5004 F-21 OUT OF EVAP 1	42.7 DEGF	-409.5	409.5	✓	TF5010 F-21 OUT OF EVAP 2	42.7 DEGF	-409.5	409.5
✓	TW5005 H2O IN TO EVAP 1	77.8 DEGF	-409.5	409.5	✓	TW5011 H2O IN TO EVAP 2	79.0 DEGF	-409.5	409.5
✓	TW5006 H2O IN TO EVAP 1	77.8 DEGF	-409.5	409.5		TW5012 H2O IN TO EVAP 2	79.0 DEGF	-409.5	409.5
✓	TW5011 H2O IN TO EVAP 2	79.0 DEGF	-409.5	409.5		TD5017 EVAP EXH TOPOFF DT	97.8 DEGF	30.0	240
	TW5012 H2O IN TO EVAP 2	79.0 DEGF	-409.5	409.5		TD5018 EVAP EXH TOPOFF DT	99.1 DEGF	30.0	240.0
	TD5013 EVAP EXH TOPOFF DT	34.2 DEGF	30.0	240.0		TD5019 EVAP EXH TOPOFF DT	120.3 DEGF	30.0	240.0
✓	TD5014 EVAP EXH TOPOFF DT	34.2 DEGF	30.0	240.0		TD5020 EVAP EXH TOPOFF DT	134.5 DEGF	30.0	240.0
	TD5015 EVAP EXH TOPOFF DT	121.5 DEGF	30.0	240.0		TD5021 EVAP EXH TOPOFF DT	96.4 DEGF	30.0	240.0
	TD5016 EVAP EXH TOPOFF DT	93.8 DEGF	30.0	240.0		TD5022 EVAP EXH TOPOFF DT	92.4 DEGF	30.0	240.0
	TD5023 EVAP RE-ENTRY DUCT	125.4 DEGF	30.0	240.0		TD5028 EVAP RE-ENTRY DUCT	35.4 DEGF	30.0	240
	TD5024 EVAP RE-ENTRY DUCT	146.0 DEGF	30.0	240.0		TD5029 EVAP RE-ENTRY DUCT	32.5 DEGF	30.0	240.0
	TD5025 EVAP RE-ENTRY DUCT	131.9 DEGF	30.0	240.0		TD5030 EVAP RE-ENTRY DUCT	42.5 DEGF	30.0	240.0
	TD5026 EVAP RE-ENTRY DUCT	129.3 DEGF	30.0	240.0		TD5031 EVAP RE-ENTRY DUCT	60.9 DEGF	30.0	240.0
	TD5027 EVAP RE-ENTRY DUCT	38.2 DEGF	30.0	240.0					
	TD5032 EVAP EXH RE-ENTRY	46.5 DEGF	30.0	240.0		TD5036 EVAP EXH RE-ENTRY	74.8 DEGF	30.0	240
	TD5033 EVAP EXH RE-ENTRY	58.1 DEGF	30.0	240.0		TD5037 EVAP EXH RE-ENTRY	125.4 DEGF	30.0	240.0
	TD5034 EVAP EXH RE-ENTRY	41.1 DEGF	30.0	240.0		TD5038 EVAP EXH RE-ENTRY	139.4 DEGF	30.0	240.0
	TD5035 EVAP EXH RE-ENTRY	35.4 DEGF	30.0	240.0	✓	TD5039 EVAP EXH RE-ENTRY	134.5 DEGF	30.0	240.0
					✓	PN5051 H2O TK GN2 PRESS	29.7 PSI	-409.5	409
✓	PF5052 F-21 DIF PRSS EV 1	12.5 PSID	-409.5	409.5	✓	PF5053 F-21 DIF PRSS EV 2	13.1 PSID	-409.5	409.5
	PN5054 H2O SUP PRSS TO EV	20.9 PSIA	-409.5	409.5		PN5055 H2O SUP PRSS TO EV	21.1 PSIA	-409.5	409.5
✓	PF5056 EVAP 1 CHMBR PRSS	3.03 TORR	-40.95	40.95	✓	PF5057 EVAP 2 CHMBR PRSS	2.88 TORR	-40.95	40.95
✓	PD5058 EXHT DUCT PRSS DP	0.33 TORR	-40.95	40.95	✓	PD5045 EXHT DUCT PRSS DP	0.44 TORR	-40.95	40
✓	PD5059 EXHT DUCT PRSS DP	0.12 TORR	-40.95	40.95		PD5066 EXHT DUCT PRSS DP	0.49 TORR	-40.95	40.95
✓	PD5040 EXHT DUCT PRSS DP	0.23 TORR	-40.95	40.95		PD5067 EXHT DUCT PRSS DP	0.53 TORR	-40.95	40.95
✓	PD5041 EXHT DUCT PRSS	1.27 TORR	-40.95	40.95		PD5068 EXHT DUCT PRSS DP	0.49 TORR	-40.95	40.95
✓	PD5042 EXHT DUCT PRSS	1.55 TORR	-40.95	40.95		PD5069 EXHT DUCT PRSS DP	0.57 TORR	-40.95	40.95
	PD5043 EXHT DUCT PRSS	1.51 TORR	-40.95	40.95	✓	PD5070 EXHT DUCT PRSS DP	0.08 TORR	-40.95	40.95
✓	PD5044 EXHT DUCT PRSS	0.059 TORR	-4.095	4.095	✓	PD5071 EXHT DUCT PRSS DP	0.037 TORR	-4.095	4.095
✓	FW5082 H2O FLO TO FL EVAP	14.8 PPH	-409.5	409.5	✓	FW5081 TOT H2O FLO TO EVP	29.7 PPH	-409.5	409
					✓	FW5083 H2O FLO TO FL EVAP	14.2 PPH	-409.5	409.5
					✓	WT5091 H2O TANK WEIGHT	13.4 LBS	-409.5	409.5
	HIS170 TOP OFF DUCT HTR 1	2.28 AMPS	-40.95	40.95	✓	HIS172 TOP OFF DUCT HTR 3	1.57 AMPS	-40.95	40.
	HIS171 TOP OFF DUCT HTR 2	2.72 AMPS	-40.95	40.95	✓	HIS173 TOP OFF DUCT HTR 4	2.24 AMPS	-40.95	40.95
✓	HIS174 R-ETY DT HTR PWR 1	0.86 AMPS	-40.95	40.95	✓	HIS178 R-ETY DT HTR PWR 3	0.68 AMPS	-40.95	40.
✓	HIS175 R-ETY DT HTR PWR 2	0.94 AMPS	-40.95	40.95					
	HIS176 S S NOZZLE HTR	0.31 AMPS	-40.95	40.95	✓	HIS177 S S NOZZLE HTR	0.31 AMPS	-40.95	40.
✓	FW5663 HI FL TO PRI VALV	2501 PPH	- 4095	4095	✓	FW5649 HI FLOW TO SEC PNL	2499 PPH	- 4095	40
						FW5660 F21 TOTAL FLOW	4.98 KPPH	-40.95	40.95

	BAI		
T			
	469	540	
	141	1133	
	104	117	
	225	1211	Q
M			
	142	13.1	
	55	70	7.4
	46	47	To
	19	26	ΔT
	2251	2215	FF

C-2

-MID-	---DESCRIPTION----	---VALUE---	----LIMITS----	-MID-	---DESCRIPTION----	---VALUE---	----LIMITS----
Z05201	INST HT RJCT EV 1	51.4 KBTU	-409.5 409.5	Z05202	INST HT RJCT EV 2	59.1 KBTU	-409.5 409.5
				Z05203	INSTANT HEAT RJCT	110.7 KBTU	-409.5 409.5
!!! Z05211	TOT HT RJCT EVP 1	231.8 KBTU	-409.5 409.5	Z05212	TOT HT RJCT EVP 2	277.0 KBTU	-409.5 40
				# Z05213	TOT HT RJCT	RRR KBTU	-409.5 409.5
!! Z05221	TOT WATR FLW EV 1	59.8 LBS	-409.5 409.5	Z05222	TOT WATR FLW EV 2	59.4 LBS	-409.5 409
				Z05223	TOT WATR FLW	119.2 LBS	-409.5 409.5
				Z05224	WATR TNK DIFF WT.	119.8 LBS	-409.5 409.5
!!* ZE5231	SIG EVE TOT EVP 1	24.72 HRS	-40.95 40.95	* ZE5232	SIG EVE TOT EVP 2	24.72 HRS	-40.95 40.
				* ZE5234	TOTAL TEST TIME	28.00 HRS	-40.95 40.95
!! Z05241	AVG HT LOAD EVP 1A	49.7 KBTU	-409.5 409.5	Z05242	AVG HT LOAD EVP 2A	59.4 KBTU	-409.5 409
				Z05243	AVG HT LOAD A	109.0 KBTU	-409.5 409.5
!! Z05251	AVG HT LOAD EVP 1B	14.3 KBTU	-409.5 409.5	Z05252	AVG HT LOAD EVP 2B	13.2 KBTU	-409.5 409
				Z05253	AVG HT LOAD B	27.4 KBTU	-409.5 409.5
!! ZF5261	AVG WATR USE EV 1	12.8 LBSH	-409.5 409.5	ZF5262	AVG WATR USE EV 2	12.7 LBSH	-409.5 409
				ZF5263	AVG WATR USE A	25.5 LBSH	-409.5 409.5
				ZF5264	AVG WATR USE B	25.7 LBSH	-409.5 409.5
! ZH5271	AVG ENT CHNG EV 1	3872 BTUP	- 4095 4095	# ZH5272	AVG ENT CHNG EV 2	RRR BTUP	- 4095 409
				# ZH5273	AVG ENTP CHNG A	RRR BTUP	- 4095 4095
				# ZH5281	AVG ENTP CHNG B	RRR BTUP	- 4095 4095
!! ZT5301	MIN F-21 OUT TEM 1	26.8 DEGF	-409.5 409.5	ZT5302	MIN F-21 OUT TEM 2	40.7 DEGF	-409.5 409
ZT5311	MAX F-21 OUT TEM 1	66.3 DEGF	-409.5 409.5	ZT5312	MAX F-21 OUT TEM 2	65.7 DEGF	-409.5 409.5
!! Z05321	TP-OF DT HTR PWR 1	213.5 WATT	-409.5 409.5	Z05351	TP-OFF DUCT 1 AVG	104.1 DEGF	-409.5 409
Z05322	TP-OF DT HTR PWR 2	228.0 WATT	-409.5 409.5	Z05352	TP-OFF DUCT 2 AVG	95.0 DEGF	-409.5 409.5
Z05323	TP-OF DT HTR PWR 3	39.2 WATT	-409.5 409.5	Z05353	TP-OFF DUCT 3 AVG	94.2 DEGF	-409.5 409.5
Z05324	TP-OF DT HTR PWR 4	60.3 WATT	-409.5 409.5	Z05354	TP-OFF DUCT 4 AVG	104.0 DEGF	-409.5 409.5
Z05331	R-ETY DT HTR PWR 1	10.2 WATT	-409.5 409.5	Z05355	R-ETRY DUCT 1 AVG	37.2 DEGF	-409.5 409.5
Z05332	R-ETY DT HTR PWR 2	13.4 WATT	-409.5 409.5	Z05356	R-ETRY DUCT 2 AVG	66.9 DEGF	-409.5 409.5
Z05333	R-ETY DT HTR PWR 3	10.5 WATT	-409.5 409.5	Z05359	R-ETRY DUCT 3 AVG	44.9 DEGF	-409.5 409.5
ZN5341	S S NOZ HTR PWR	27.7 WATT	-409.5 409.5	ZN5357	SS NOZZLE 1 AVG	135.7 DEGF	-409.5 409.5
ZN5342	S S NOZ HTR PWR	27.7 WATT	-409.5 409.5	ZN5358	SS NOZZLE 2 AVG	130.6 DEGF	-409.5 409.5
!! TM5403	MSFC ASPS TEMP 1	82.1 DEGF	-409.5 409.5	TM5404	MSFC ASPS TEMP 2	74.6 DEGF	-409.5 409
TF5501	P FLD CONT VLV IN	168.4 DEGF	-409.5 409.5	TF5506	S FLD CONT VLV IN	UUU DEGF	-409.5 409.5
# TF5528	P CON OUT MIX CH	UUU DEGF	-409.5 409.5	# TF5530	S CON OUT MIX CH	UUU DEGF	-409.5 409.5
# TF5529	P CON OUT MIX CH	UUU DEGF	-409.5 409.5	# TF5531	S CON OUT MIX CH	UUU DEGF	-409.5 409.5
!! FM5643	HI FL TO PRI VALV	2501 PPH	- 4095 4095	FM5649	HI FLOW TO SEC PNL	2499 PPH	- 4095 40

End of TP

PAGE 01 CSD IR/EVAP SCOOP (0004) CHAMBER A 04 113, 01 HRS, 00 MIN, 00 SEC

-MID-	---DESCRIPTION----	---VALUE---	----LIMITS----		-MID-	---DESCRIPTION----	---VALUE---	----LIMITS----	
TF5001	F-21 IN TO EVAP 1	70.2 DEGF	-409.5	409.5	TF5007	F-21 IN TO EVAP 2	72.3 DEGF	-409.5	409.5
TF5002	F-21 IN TO EVAP 1	68.6 DEGF	-409.5	409.5	TF50	F-21 IN TO EVAP 2	72.3 DEGF	-409.5	409.5
TF5003	F-21 OUT OF EVAP 1	45.4 DEGF	-409.5	409.5	TF5009	F-21 OUT OF EVAP 2	43.7 DEGF	-409.5	409.5
TF5004	F-21 OUT OF EVAP 1	45.8 DEGF	-409.5	409.5	TF5010	F-21 OUT OF EVAP 2	44.1 DEGF	-409.5	409.5
TW5005	H20 IN TO EVAP 1	47.0 DEGF	-409.5	409.5	TW5011	H20 IN TO EVAP 2	48.7 DEGF	-409.5	409.5
TW5006	H20 IN TO EVAP 1	47.5 DEGF	-409.5	409.5	TW5012	H20 IN TO EVAP 2	48.3 DEGF	-409.5	409.5
!! TW5011	H20 IN TO EVAP 2	48.7 DEGF	-409.5	409.5	TD5017	EVAP EXH TOPOFF DT	129.3 DEGF	30.0	240
TW5012	H20 IN TO EVAP 2	48.3 DEGF	-409.5	409.5	TD5018	EVAP EXH TOPOFF DT	108.5 DEGF	30.0	240.0
TD5013	EVAP EXH TOPOFF DT	99.1 DEGF	30.0	240.0	TD5019	EVAP EXH TOPOFF DT	146.0 DEGF	30.0	240.0
TD5014	EVAP EXH TOPOFF DT	70.6 DEGF	30.0	240.0	TD5020	EVAP EXH TOPOFF DT	140.9 DEGF	30.0	240.0
TD5015	EVAP EXH TOPOFF DT	146.0 DEGF	30.0	240.0	TD5021	EVAP EXH TOPOFF DT	122.8 DEGF	30.0	240.0
TD5016	EVAP EXH TOPOFF DT	120.3 DEGF	30.0	240.0	TD5022	EVAP EXH TOPOFF DT	113.8 DEGF	30.0	240.0
!! TD5023	EVAP RE-ENTRY DUCT	133.2 DEGF	30.0	240.0	TD5028	EVAP RE-ENTRY DUCT	41.1 DEGF	30.0	240
TD5024	EVAP RE-ENTRY DUCT	153.5 DEGF	30.0	240.0	TD5029	EVAP RE-ENTRY DUCT	38.9 DEGF	30.0	240.0
TD5025	EVAP RE-ENTRY DUCT	143.5 DEGF	30.0	240.0	TD5030	EVAP RE-ENTRY DUCT	48.3 DEGF	30.0	240.0
TD5026	EVAP RE-ENTRY DUCT	140.9 DEGF	30.0	240.0	TD5031	EVAP RE-ENTRY DUCT	65.1 DEGF	30.0	240.0
TD5027	EVAP RE-ENTRY DUCT	42.5 DEGF	30.0	240.0					
!! TD5032	EVAP EXH RE-ENTRY	70.6 DEGF	30.0	240.0	TD5036	EVAP EXH RE-ENTRY	77.5 DEGF	30.0	240
TD5033	EVAP EXH RE-ENTRY	62.3 DEGF	30.0	240.0	TD5037	EVAP EXH RE-ENTRY	163.5 DEGF	30.0	240.0
TD5034	EVAP EXH RE-ENTRY	45.4 DEGF	30.0	240.0	TD5038	EVAP EXH RE-ENTRY	161.0 DEGF	30.0	240.0
TD5035	EVAP EXH RE-ENTRY	39.7 DEGF	30.0	240.0	TD5039	EVAP EXH RE-ENTRY	153.5 DEGF	30.0	240.0
					PN5051	H20 TK GN2 PRESS	24.9 PSI	-409.5	409.5
PF5052	F-21 DIF PRSS EV 1	10.3 PSID	-409.5	409.5	PF5053	F-21 DIF PRSS EV 2	10.8 PSID	-409.5	409.5
PW5054	H20 SUP PRSS TO EV	16.4 PSIA	-409.5	409.5	PW5055	H20 SUP PRSS TO EV	16.8 PSIA	-409.5	409.5
PE5056	EVAP 1 CHMBR PRSS	3.23 TORR	-40.95	40.95	PE5057	EVAP 2 CHMBR PRSS	4.25 TORR	-40.95	40.95
!! PD5058	EXHT DUCT PRSS DP	0.14 TORR	-40.95	40.95	PD5065	EXHT DUCT PRSS DP	0.35 TORR	-40.95	40.
PD5059	EXHT DUCT PRSS DP	0.13 TORR	-40.95	40.95	PD5066	EXHT DUCT PRSS DP	0.55 TORR	-40.95	40.95
PD5060	EXHT DUCT PRSS DP	0.26 TORR	-40.95	40.95	PD5067	EXHT DUCT PRSS DP	0.54 TORR	-40.95	40.95
PD5061	EXHT DUCT PRSS	1.39 TORR	-40.95	40.95	PD5068	EXHT DUCT PRSS DP	0.46 TORR	-40.95	40.95
PD5062	EXHT DUCT PRSS	1.67 TORR	-40.95	40.95	PD5069	EXHT DUCT PRSS DP	0.60 TORR	-40.95	40.95
PD5063	EXHT DUCT PRSS	1.63 TORR	-40.95	40.95	PD5070	EXHT DUCT PRSS DP	0.05 TORR	-40.95	40.95
PD5064	EXHT DUCT PRSS	0.059 TORR	-4.095	4.095	PD5071	EXHT DUCT PRSS DP	0.037 TORR	-4.095	4.095
!!					FW5081	TOT H20 FLO TO EVP	30.0 PPH	-409.5	409
FW5082	H20 F.O TO FL EVAP	15.5 PPH	-409.5	409.5	FW5083	H20 FLO TO FL EVAP	14.2 PPH	-409.5	409.5
					WT5091	H20 TANK WEIGHT	78.3 LBS	-409.5	409.5
!! HI5170	TOP OFF DUCT HTR 1	1.54 AMPS	-40.95	40.95	HI5172	TOP OFF DUCT HTR 3	1.55 AMPS	-40.95	40.
HI5171	TOP OFF DUCT HTR 2	2.72 AMPS	-40.95	40.95	HI5173	TOP OFF DUCT HTR 4	2.21 AMPS	-40.95	40.95
!! HI5174	R-ETY DT HTR PWR 1	0. AMPS	-40.95	40.95	HI5178	R-ETY DT HTR PWR 3	0.68 AMPS	-40.95	40.
HI5175	R-ETY DT HTR PWR 2	0.94 AMPS	-40.95	40.95					
!! HI5176	S S NOZZLE HTR	0.31 AMPS	-40.95	40.95	HI5177	S S NOZZLE HTR	0.31 AMPS	-40.95	40.
!! FM5643	HI FL TO PRI VALV	2251 PPH	- 4095	4095	FM5649	HI FLOW TO SEC PNL	2252 PPH	- 4095	40
					FM5660	F21 TOTAL FLOW	4.54 KPPH	-40.95	40.95

C-4

T.P #12

PAGE 02 CSD I92/EVAP SCOOP (0005) CHAMBER A DAY 111, 21 HRS, 00 MIN, 00 SEC

-MID-	-DESCRIPTION-	-VALUE-	-LIMITS-		-MID-	-DESCRIPTION-	-VALUE-	-LIMITS-	
‡‡	Z05201 INST HT RJCT EV 1	12.7 KBTU	-409.5	409.5		Z05202 INST HT RJCT EV 2	15.7 KBTU	-409.5	409
						Z05203 INSTANT HEAT RJCT	28.5 KBTU	-409.5	409.5
‡‡	Z05211 TOT HT RJCT EVP 1	8.4 KBTU	-409.5	409.5		Z05212 TOT HT RJCT EVP 2	10.5 KBTU	-409.5	409
						Z05213 TOT HT RJCT	18.9 KBTU	-409.5	409.5
‡‡	Z05221 TOT WATR FLW EV 1	10.1 LBS	-409.5	409.5		Z05222 TOT WATR FLW EV 2	9.4 LBS	-409.5	409
						Z05223 TOT WATR FLW	19.4 LBS	-409.5	409.5
						Z05224 WATR TNK DIFF WT.	18.9 LBS	-409.5	409.5
‡‡*	ZE5231 SIG EVE TOT EVP 1	3.93 HRS	-40.95	40.95	*	ZE5232 SIG EVE TOT EVP 2	3.93 HRS	-40.95	40.
					*	ZE5234 TOTAL TEST TIME	3.93 HRS	-40.95	40.95
‡‡	Z05241 AVG HT LOAD EVP 1A	12.8 KBTU	-409.5	409.5		Z05242 AVG HT LOAD EVP 2A	14.1 KBTU	-409.5	409
						Z05243 AVG HT LOAD A	28.9 KBTU	-409.5	409.5
‡‡	Z05251 AVG HT LOAD EVP 1B	15.0 KBTU	-409.5	409.5		Z05252 AVG HT LOAD EVP 2B	15.0 KBTU	-409.5	409
						Z05253 AVG HT LOAD B	30.0 KBTU	-409.5	409.5
	ZF5241 AVG WATR USE EV 1	15.5 LBSH	-409.5	409.5		ZF5262 AVG WATR USE EV 2	14.4 LBSH	-409.5	409.5
						ZF5263 AVG WATR USE A	29.9 LBSH	-409.5	409.5
						ZF5264 AVG WATR USE B	28.9 LBSH	-409.5	409.5
‡‡	ZH5271 AVG ENT CHNG EV 1	825 BTUP	- 4095	4095		ZH5272 AVG ENT CHNG EV 2	1115 BTUP	- 4095	40
						ZH5273 AVG ENTP CHNG A	965 BTUP	- 4095	4095
						ZH5281 AVG ENTP CHNG B	999 BTUP	- 4095	4095
‡‡	ZT5301 MIN F-21 OUT TEM 1	44.5 DEGF	-409.5	409.5		ZT5302 MIN F-21 OUT TEM 2	43.0 DEGF	-409.5	409
#	ZT5311 MAX F-21 OUT TEM 1	RRR DEGF	-409.5	409.5	#	ZT5312 MAX F-21 OUT TEM 2	RRR DEGF	-409.5	409.5
	Z05321 TP-OF DT HTR PWR 1	97.7 WATT	-409.5	409.5		Z05351 TP-OFF DUCT 1 AVG	128.4 DEGF	-409.5	409.5
	Z05322 TP-OF DT HTR PWR 2	230.7 WATT	-409.5	409.5		Z05352 TP-OFF DUCT 2 AVG	136.2 DEGF	-409.5	409.5
	Z05323 TP-OF DT HTR PWR 3	40.1 WATT	-409.5	409.5		Z05353 TP-OFF DUCT 3 AVG	119.0 DEGF	-409.5	409.5
	Z05324 TP-OF DT HTR PWR 4	63.4 WATT	-409.5	409.5		Z05354 TP-OFF DUCT 4 AVG	131.4 DEGF	-409.5	409.5
	Z05331 R-ETY DT HTR PWR 1	10.8 WATT	-409.5	409.5		Z05355 R-ETHY DUCT 1 AVG	42.5 DEGF	-409.5	409.5
	Z05332 R-ETY DT HTR PWR 2	13.8 WATT	-409.5	409.5		Z05356 R-ETHY DUCT 2 AVG	71.1 DEGF	-409.5	409.5
	Z05333 R-ETY DT HTR PWR 3	10.8 WATT	-409.5	409.5		Z05359 R-ETHY DUCT 3 AVG	49.1 DEGF	-409.5	409.5
	ZN5341 S S NOZ HTR PWR	27.7 WATT	-409.5	409.5		ZN5357 SS NOZZLE 1 AVG	142.8 DEGF	-409.5	409.5
	ZN5342 S S NOZ HTR PWR	27.7 WATT	-409.5	409.5		ZN5358 SS NOZZLE 2 AVG	142.2 DEGF	-409.5	409.5
‡‡	TM5403 MSFC ASPS TEMP 1	83.5 DEGF	-409.5	409.5		TM5404 MSFC ASPS TEMP 2	79.3 DEGF	-409.5	409
	TF5501 P FLO CONT VLV IN	103.3 DEGF	-409.5	409.5		TF5506 S FLO CONT VLV IN	133.2 DEGF	-409.5	409.5
#	TF5528 P CON OUT MIX CH	UUU DEGF	-409.5	409.5	#	TF5530 S CON OUT MIX CH	UUU DEGF	-409.5	409.5
#	TF5529 P CON OUT MIX CH	UUU DEGF	-409.5	409.5	#	TF5531 S CON OUT MIX CH	UUU DEGF	-409.5	409.5
	FM5643 HI FL TO PRI VALV	2251 PPH	- 4095	4095		FM5649 HI FLOW TO SEC PNL	2252 PPH	- 4095	4095

C-5

MID	DESCRIPTION	VALUE	LIMITS		MID	DESCRIPTION	VALUE	LIMITS	
**	TF5001 F-21 IN TO EVAP 1	63.8 DEGF	-409.5	409.5		TF5007 F-21 IN TO EVAP 2	65.4 DEGF	-409.5	409
	TF5002 F-21 IN TO EVAP 1	62.6 DEGF	-409.5	409.5		TF5008 F-21 IN TO EVAP 2	5.8 DEGF	-409.5	409.5
	TF5003 F-21 OUT OF EVAP 1	45.4 DEGF	-409.5	409.5		TF5009 F-21 OUT OF EVAP 2	43.0 DEGF	-409.5	409.5
	TF5004 F-21 OUT OF EVAP 1	45.4 DEGF	-409.5	409.5		TF5010 F-21 OUT OF EVAP 2	43.0 DEGF	-409.5	409.5
	TW5005 H20 IN TO EVAP 1	47.5 DEGF	-409.5	409.5		TW5011 H20 IN TO EVAP 2	48.7 DEGF	-409.5	409.5
	TW5006 H20 IN TO EVAP 1	47.5 DEGF	-409.5	409.5		TW5012 H20 IN TO EVAP 2	48.3 DEGF	-409.5	409.5
**	TW5011 H20 IN TO EVAP 2	48.7 DEGF	-409.5	409.5		TD5017 EVAP EXH TOPOFF DT	124.7 DEGF	30.0	240
	TW5012 H20 IN TO EVAP 2	48.3 DEGF	-409.5	409.5		TD5018 EVAP EXH TOPOFF DT	109.5 DEGF	30.0	240.0
	TD5013 EVAP EXH TOPOFF DT	96.4 DEGF	30.0	240.0		TD5019 EVAP EXH TOPOFF DT	140.9 DEGF	30.0	240.0
	TD5014 EVAP EXH TOPOFF DT	69.2 DEGF	30.0	240.0		TD5020 EVAP EXH TOPOFF DT	139.4 DEGF	30.0	240.0
	TD5015 EVAP EXH TOPOFF DT	144.8 DEGF	30.0	240.0		TD5021 EVAP EXH TOPOFF DT	117.7 DEGF	30.0	240.0
	TD5016 EVAP EXH TOPOFF DT	117.7 DEGF	30.0	240.0		TD5022 EVAP EXH TOPOFF DT	109.8 DEGF	30.0	240.0
**	TD5023 EVAP RE-ENTRY DUCT	130.6 DEGF	30.0	240.0		TD5028 EVAP RE-ENTRY DUCT	42.5 DEGF	30.0	240
	TD5024 EVAP RE-ENTRY DUCT	151.0 DEGF	30.0	240.0		TD5029 EVAP RE-ENTRY DUCT	39.7 DEGF	30.0	240.0
	TD5025 EVAP RE-ENTRY DUCT	144.8 DEGF	30.0	240.0		TD5030 EVAP RE-ENTRY DUCT	40.7 DEGF	30.0	240.0
	TD5026 EVAP RE-ENTRY DUCT	142.2 DEGF	30.0	240.0		TD5031 EVAP RE-ENTRY DUCT	67.8 DEGF	30.0	240.0
	TD5027 EVAP RE-ENTRY DUCT	45.4 DEGF	30.0	240.0					
**	TD5032 EVAP EXH RE-ENTRY	73.4 DEGF	30.0	240.0		TD5036 EVAP EXH RE-ENTRY	80.3 DEGF	30.0	240
	TD5033 EVAP EXH RE-ENTRY	63.7 DEGF	30.0	240.0		TD5037 EVAP EXH RE-ENTRY	159.7 DEGF	30.0	240.0
	TD5034 EVAP EXH RE-ENTRY	46.9 DEGF	30.0	240.0		TD5038 EVAP EXH RE-ENTRY	158.5 DEGF	30.0	240.0
	TD5035 EVAP EXH RE-ENTRY	42.5 DEGF	30.0	240.0		TD5039 EVAP EXH RE-ENTRY	152.3 DEGF	30.0	240.0
						PW5051 H20 TK GW2 PRESS	24.8 PSI	-409.5	409.5
	PF5052 F-21 DIF PRSS EV 1	15.4 PSID	-409.5	409.5		PF5053 F-21 DIF PRSS EV 2	15.1 PSID	-409.5	409.5
	PW5054 H20 SUP PRSS TO EV	16.4 PSIA	-409.5	409.5		PW5055 H20 SUP PRSS TO EV	16.4 PSIA	-409.5	409.5
	PE5056 EVAP 1 CHMBR PRSS	3.19 TORR	-40.95	40.95		PE5057 EVAP 2 CHMBR PRSS	4.1 TORR	-40.95	40.95
**	PD5058 EXHT DUCT PRSS DP	0.13 TORR	-40.95	40.95		PD5065 EXHT DUCT PRSS DP	0.34 TORR	-40.95	40.
	PD5059 EXHT DUCT PRSS DP	0.13 TORR	-40.95	40.95		PD5066 EXHT DUCT PRSS DP	0.53 TORR	-40.95	40.95
	PD5060 EXHT DUCT PRSS DP	0.26 TORR	-40.95	40.95		PD5067 EXHT DUCT PRSS DP	0.56 TORR	-40.95	40.95
	PD5061 EXHT DUCT PRSS	1.35 TORR	-40.95	40.95		PD5068 EXHT DUCT PRSS DP	0.46 TORR	-40.95	40.95
	PD5062 EXHT DUCT PRSS	1.63 TORR	-40.95	40.95		PD5069 EXHT DUCT PRSS DP	0.66 TORR	-40.95	40.95
	PD5063 EXHT DUCT PRSS	1.59 TORR	-40.95	40.95		PD5070 EXHT DUCT PRSS DP	0.04 TORR	-40.95	40.95
	PD5064 EXHT DUCT PRSS	0.061 TORR	-4.095	4.095		PD5071 EXHT DUCT PRSS DP	0.037 TORR	-4.095	4.095
**						FW5081 TOT H20 FLO TO EVP	29.1 PPH	-409.5	409
	FW5082 H20 FLO TO FL EVAP	5.1 PPH	-409.5	409.5		FW5083 H20 FLO TO FL EVAP	13.8 PPH	-409.5	409.5
						WT5091 H20 TANK WEIGHT	46.2 LBS	-409.5	409.5
	HI5170 TOP OFF DUCT HTR 1	2.27 AMPS	-40.95	40.95		HI5172 TOP OFF DUCT HTR 3	1.56 AMPS	-40.95	40.95
	HI5171 TOP OFF DUCT HTR 2	2.71 AMPS	-40.95	40.95		HI5173 TOP OFF DUCT HTR 4	2.21 AMPS	-40.95	40.95
**	HI5174 R-ETY DT HTR PWR 1	0.88 AMPS	-40.95	40.95		HI5178 R-ETY DT HTR PWR 3	0.69 AMPS	-40.95	40.
	HI5175 R-ETY DT HTR PWR 2	0.95 AMPS	-40.95	40.95					
**	HI5176 S S NOZZLE HTR	0.31 AMPS	-40.95	40.95		HI5177 S S NOZZLE HTR	0.31 AMPS	-40.95	40.
**	FW5643 HI FL TO PRI VALV	2751 PPH	- 4095	4093		FW5649 HI FLOW TO SEC PNL	2722 PPH	- 4095	40
						FW5660 F21 TOTAL FLOW	5.42 KPPH	-40.95	40.95

End Test Point 3.

-MID-	---DESCRIPTION----	---VALUE---	----LIMITS----		-MID-	---DESCRIPTION----	---VALUE---	----LIMITS----	
‡‡	ZQ52 1 INST HT RJCT EV 1	11.8 KBTU	-409.5	409.5		ZQ5202 INST HT RJCT EV 2	14.4 KBTU	-409.5	409
						ZQ5203 INSTANT HEAT RJCT	27.2 KBTU	-409.5	409.5
‡‡	ZQ5211 TOT HT RJCT EVP 1	8.4 KBTU	-409.5	409.5		ZQ5212 TOT HT RJCT EVP 2	10.6 KBTU	-409.5	409
						ZQ5213 TOT HT RJCT	19.1 KBTU	-409.5	409.5
‡‡	ZW5221 TOT WATR FLW EV 1	10.4 LBS	-409.5	409.5		ZW5222 TOT WATR FLW EV 2	9.6 LBS	-409.5	409
						ZW5223 TOT WATR FLW	19.9 LBS	-409.5	409.5
						ZW5224 WATR TNK DIFF WT.	19.0 LBS	-409.5	409.5
‡‡*	ZE5231 SIG EVE TOT EVP 1	4.10 HRS	-40.95	40.95	*	ZE5232 SIG EVE TOT EVP 2	4.10 HRS	-40.95	40.
					*	ZE5234 TOTAL TEST TIME	4.11 HRS	-40.95	40.95
‡‡	ZQ5241 AVG HT LOAD EVP 1A	12.3 KBTU	-409.5	409.5		ZQ5242 AVG HT LOAD EVP 2A	14.4 KBTU	-409.5	40
						ZQ5243 AVG HT LOAD A	27.9 KBTU	-409.5	409.5
‡‡	ZQ5251 AVG HT LOAD EVP 1B	15.0 KBTU	-409.5	409.5		ZQ5252 AVG HT LOAD EVP 2B	15.0 KBTU	-409.5	409
						ZQ5253 AVG HT LOAD B	30.0 KBTU	-409.5	409.5
	ZF5261 AVG WATR USE EV 1	15.2 LBSM	-409.5	409.5		ZF5262 AVG WATR USE EV 2	14.0 LBSM	-409.5	409.5
						ZF5263 AVG WATR USE A	29.2 LBSM	-409.5	409.5
						ZF5264 AVG WATR USE B	27.8 LBSM	-409.5	409.5
‡‡	ZH5271 AVG ENT CHNG EV 1	813 BTUP	- 4095	4095		ZH5272 AVG ENT CHNG EV 2	1110 BTUP	- 4095	40
						ZH5273 AVG ENTP CHNG A	956 BTUP	- 4095	4095
						ZH5281 AVG ENTP CHNG B	1003 BTUP	- 4095	4095
‡‡	ZT5301 MIN F-21 OUT TEM 1	43.3 DEGF	-409.5	409.5		ZT5302 MIN F-21 OUT TEM 2	41.9 DEGF	-409.5	409
#	ZT5311 MAX F-21 OUT TEM 1	888 DEGF	-409.5	409.5	#	ZT5312 MAX F-21 OUT TEM 2	888 DEGF	-409.5	409.5
	ZD5321 TP-OF DT HTR PWR 1	212.6 WATT	-409.5	409.5		ZD5351 TP-OFF DUCT 1 AVG	126.7 DEGF	-409.5	409.5
	ZD5322 TP-OF DT HTR PWR 2	224.7 WATT	-409.5	409.5		ZD5352 TP-OFF DUCT 2 AVG	133.4 DEGF	-409.5	409.5
	ZD5323 TP-OF DT HTR PWR 3	39.8 WATT	-409.5	409.5		ZD5353 TP-OFF DUCT 3 AVG	115.1 DEGF	-409.5	409.5
	ZD5324 TP-OF DT HTR PWR 4	63.0 WATT	-409.5	409.5		ZD5354 TP-OFF DUCT 4 AVG	128.4 DEGF	-409.5	409.5
	ZD5331 R-ETY DT HTR PWR 1	10.8 WATT	-409.5	409.5		ZD5355 R-ETHY DUCT 1 AVG	44.0 DEGF	-409.5	409.5
	ZD5332 R-ETY DT HTR PWR 2	13.9 WATT	-409.5	409.5		ZD5356 R-ETHY DUCT 2 AVG	73.8 DEGF	-409.5	409.5
	ZD5333 R-ETY DT HTR PWR 3	10.8 WATT	-409.5	409.5		ZD5359 R-ETHY DUCT 3 AVG	51.0 DEGF	-409.5	409.5
	ZN5341 S S NOZ HTR PWR	27.7 WATT	-409.5	409.5		ZN5357 SS NOZZLE 1 AVG	140.9 DEGF	-409.5	409.5
	ZN5342 S S NOZ HTR PWR	27.7 WATT	-409.5	409.5		ZN5358 SS NOZZLE 2 AVG	143.6 DEGF	-409.5	409.5
‡‡	TM5403 MSFC ASPS TEMP 1	84.8 DEGF	-409.5	409.5		TM5404 MSFC ASPS TEMP 2	80.7 DEGF	-409.5	409
	TF5501 P FLD CONT VLV IN	70.9 DEGF	-409.5	409.5		TF5506 S FLD CONT VLV IN	156.9 DEGF	-409.5	409.5
#	TF5528 P CON OUT MIX CH	UUU DEGF	-409.5	409.5	#	TF5530 S CON OUT MIX CH	UUU DEGF	-409.5	409.5
#	TF5529 P CON OUT MIX CH	UUU DEGF	-409.5	409.5	#	TF5531 S CON OUT MIX CH	UUU DEGF	-409.5	409.5
	FM5643 HI FL TO PRI VALV	2751 PPH	- 4095	4095		FM5649 HI FLOW TO SEC PNL	2722 PPH	- 4095	4095

-MID-	---DESCRIPTION----	---VALUE---	----LIMITS----		-MID-	---DESCRIPTION----	---VALUE---	----LIMITS----	
‡‡	TF5001 F-21 IN TO EVAP 1	62.6 DEGF	-409.5	409.5		TF5007 F-21 IN TO EVAP 2	64.2 DEGF	-409.5	409
	TF5002 F-21 IN TO EVAP 1	61.4 DEGF	-409.5	409.5		TF5008 F-21 IN TO EVAP 2	64.4 DEGF	-409.5	409.5
	TF5003 F-21 OUT OF EVAP 1	43.0 DEGF	-409.5	409.5		TF5009 F-21 OUT OF EVAP 2	42.4 DEGF	-409.5	409.5
	TF5004 F-21 OUT OF EVAP 1	43.0 DEGF	-409.5	409.5		TF5010 F-21 OUT OF EVAP 2	43.3 DEGF	-409.5	409.5
	TW5005 H20 IN TO EVAP 1	46.2 DEGF	-409.5	409.5		TW5011 H20 IN TO EVAP 2	47.0 DEGF	-409.5	409.5
	TW5006 H20 IN TO EVAP 1	46.6 DEGF	-409.5	409.5		TW5012 H20 IN TO EVAP 2	47.6 DEGF	-409.5	409.5
‡‡	TW5011 H20 IN TO EVAP 2	47.9 DEGF	-409.5	409.5		TD5017 EVAP EXH TOPOFF DT	110.0 DEGF	30.0	240
	TW5012 H20 IN TO EVAP 2	47.5 DEGF	-409.5	409.5		TD5018 EVAP EXH TOPOFF DT	108.6 DEGF	30.0	240.0
	TD5013 EVAP EXH TOPOFF DT	92.4 DEGF	30.0	240.0		TD5019 EVAP EXH TOPOFF DT	138.7 DEGF	30.0	240.0
	TD5014 EVAP EXH TOPOFF DT	89.2 DEGF	30.0	240.0		TD5020 EVAP EXH TOPOFF DT	138.3 DEGF	30.0	240.0
	TD5015 EVAP EXH TOPOFF DT	139.6 DEGF	30.0	240.0		TD5021 EVAP EXH TOPOFF DT	115.1 DEGF	30.0	240.0
	TD5016 EVAP EXH TOPOFF DT	113.8 DEGF	30.0	240.0		TD5022 EVAP EXH TOPOFF DT	107.1 DEGF	30.0	240.0
‡‡	TD5023 EVAP RE-ENTRY DUCT	129.3 DEGF	30.0	240.0		TD5028 EVAP RE-ENTRY DUCT	44.0 DEGF	30.0	240
	TD5024 EVAP RE-ENTRY DUCT	149.8 DEGF	30.0	240.0		TD5029 EVAP RE-ENTRY DUCT	41.1 DEGF	30.0	240.0
	TD5025 EVAP RE-ENTRY DUCT	143.5 DEGF	30.0	240.0		TD5030 EVAP RE-ENTRY DUCT	49.7 DEGF	30.0	240.0
	TD5026 EVAP RE-ENTRY DUCT	140.9 DEGF	30.0	240.0		TD5031 EVAP RE-ENTRY DUCT	69.2 DEGF	30.0	240.0
	TD5027 EVAP RE-ENTRY DUCT	46.9 DEGF	30.0	240.0					
‡‡	TD5032 EVAP EXH RE-ENTRY	74.8 DEGF	30.0	240.0		TD5036 EVAP EXH RE-ENTRY	80.3 DEGF	30.0	240
	TD5033 EVAP EXH RE-ENTRY	66.5 DEGF	30.0	240.0		TD5037 EVAP EXH RE-ENTRY	157.2 DEGF	30.0	240.0
	TD5034 EVAP EXH RE-ENTRY	49.7 DEGF	30.0	240.0		TD5038 EVAP EXH RE-ENTRY	156.0 DEGF	30.0	240.0
	TD5035 EVAP EXH RE-ENTRY	42.5 DEGF	30.0	240.0		TD5039 EVAP EXH RE-ENTRY	148.6 DEGF	30.0	240.0
‡‡						PN5051 H20 TK GN2 PRESS	24.7 PSI	-409.5	409
	PF5052 F-21 DIF PRSS EV 1	15.3 PSID	-409.5	409.5		PF5053 F-21 DIF PRSS EV 2	15.3 PSID	-409.5	409.5
	PW5054 H20 SUP PRSS TO EV	17.2 PSIA	-409.5	409.5		PW5055 H20 SUP PRSS TO EV	17.4 PSIA	-409.5	409.5
	PE5056 EVAP 1 CHMBR PRSS	3.23 TORR	-40.95	40.95		PE5057 EVAP 2 CHMBR PRSS	4.26 TORR	-40.95	40.95
‡‡	PD5058 EXHT DUCT PRSS DP	0.15 TORR	-40.95	40.95		PD5065 EXHT DUCT PRSS DP	0.36 TORR	-40.95	40.
	PD5059 EXHT DUCT PRSS DP	0.14 TORR	-40.95	40.95		PD5066 EXHT DUCT PRSS DP	0.56 TORR	-40.95	40.95
	PD5060 EXHT DUCT PRSS DP	0.27 TORR	-40.95	40.95		PD5067 EXHT DUCT PRSS DP	0.56 TORR	-40.95	40.95
	PD5061 EXHT DUCT PRSS	1.35 TORR	-40.95	40.95		PD5068 EXHT DUCT PRSS DP	0.52 TORR	-40.95	40.95
	PD5062 EXHT DUCT PRSS	1.67 TORR	-40.95	40.95		PD5069 EXHT DUCT PRSS DP	0.62 TORR	-40.95	40.95
	PD5063 EXHT DUCT PRSS	1.63 TORR	-40.95	40.95		PD5070 EXHT DUCT PRSS DP	0.03 TORR	-40.95	40.95
	PD5064 EXHT DUCT PRSS	0.065 TORR	-4.095	4.095		PD5071 EXHT DUCT PRSS DP	0.038 TORR	-4.095	4.095
‡‡						FW5081 TOT H20 FLO TO EVP	29.6 PPH	-409.5	409
	FW5082 H20 FLO TO FL EVAP	15.5 PPH	-409.5	409.5		FW5083 H20 FLO TO FL EVAP	14.6 PPH	-409.5	409.5
						WT5091 H20 TANK WEIGHT	21.9 LBS	-409.5	409.5
‡‡	HI5170 TOP OFF DUCT HTR 1	2.27 AMPS	-40.95	40.95		HI5172 TOP OFF DUCT HTR 3	1.55 AMPS	-40.95	40.
	HI5171 TOP OFF DUCT HTR 2	2.71 AMPS	-40.95	40.95		HI5173 TOP OFF DUCT HTR 4	2.10 AMPS	-40.95	40.95
‡‡	HI5174 R-ETY DT HTR PWR 1	0.88 AMPS	-40.95	40.95		HI5178 R-ETY DT HTR PWR 3	0.68 AMPS	-40.95	40.
	HI5175 R-ETY DT HTR PWR 2	0.94 AMPS	-40.95	40.95					
‡‡	HI5176 S S NOZZLE HTR	0.31 AMPS	-40.95	40.95		HI5177 S S NOZZLE HTR	0.31 AMPS	-40.95	40.
‡‡	FM5643 HI FL TO P.I VALV	2764 PPH	- 4095	4095		FM5649 HI FLOW TO SEC PNL	2734 PPH	- 4095	40
						FM5660 F21 TOTAL FLOW	5.42 KPPH	-40.95	40.95

TP #1

-MID-	---DESCRIPTION----	---VALUE---	----LIMITS----	-MID-	---DESCRIPTION----	---VALUE---	----LIMITS----
‡‡	Z05201 INST HT RJCT EV 1	12.6 KBTU	-409.5 409.5		Z05202 INST HT RJCT EV 2	16.8 KBTU	-409.5 409
					Z05203 INSTANT HEAT RJCT	28.5 KBTU	-409.5 409.5
‡‡	Z05211 TOT HT RJCT EVP 1	7.4 KBTU	-409.5 409.5		Z05212 TOT HT RJCT EVP 2	9.3 KBTU	-409.5 409
					Z05213 TOT HT RJCT	16.7 KBTU	-409.5 409.5
‡‡	ZW5221 TOT WATR FLW EV 1	9.1 LBS	-409.5 409.5		ZW5222 TOT WATR FLW EV 2	8.5 LBS	-409.5 409
					ZW5223 TOT WATR FLW	17.6 LBS	-409.5 409.5
					ZW5224 WATR TNK DIFF WT.	17.2 LBS	-409.5 409.5
‡‡*	ZE5231 SIG EVE TOT EVP 1	3.49 HRS	-40.95 40.95	*	ZE5232 SIG EVE TOT EVP 2	3.49 HRS	-40.95 40.
				*	ZE5234 TOTAL TEST TIME	3.51 HRS	-40.95 40.95
‡‡	Z05241 AVG HT LOAD EVP 1A	12.7 KBTU	-409.5 409.5		Z05242 AVG HT LOAD EVP 2A	16.0 KBTU	-409.5 409
					Z05243 AVG HT LOAD A	27.4 KBTU	-409.5 409.5
‡‡‡	Z05251 AVG HT LOAD EVP 1B	15.0 KBTU	-409.5 409.5		Z05252 AVG HT LOAD EVP 2B	14.9 KBTU	-409.5 40
					Z05253 AVG HT LOAD B	29.9 KBTU	-409.5 409.5
‡‡	ZF5261 AVG WATR USE EV 1	15.5 LBSH	-409.5 409.5		ZF5262 AVG WATR USE EV 2	14.5 LBSH	-409.5 409
					ZF5263 AVG WATR USE A	30.0 LBSH	-409.5 409.5
					ZF5264 AVG WATR USE B	29.4 LBSH	-409.5 409.5
‡‡	ZH5271 AVG ENT CHNG EV 1	817 BTUP	- 4095 4095		ZH5272 AVG ENT CHNG EV 2	1102 BTUP	- 4095 40
					ZH5273 AVG ENTP CHNG A	958 BTUP	- 4095 4095
					ZH5281 AVG ENTP CHNG B	973 BTUP	- 4095 4095
‡‡	ZT5301 MIN F-21 OUT TEM 1	42.3 DEGF	-409.5 409.5		ZT5302 MIN F-21 OUT TEM 2	41.9 DEGF	-409.5 409
#	ZT5311 MAX F-21 OUT TEM 1	RRR DEGF	-409.5 409.5	#	ZT5312 MAX F-21 OUT TEM 2	RRR DEGF	-409.5 409.5
‡‡	Z05321 TP-OF DT HTR PWR 1	212.4 WATT	-409.5 409.5		Z05351 TP-OFF DUCT 1 AVG	124.6 DEGF	-409.5 409
	Z05322 TP-OF DT HTR PWR 2	228.4 WATT	-409.5 409.5		Z05352 TP-OFF DUCT 2 AVG	129.7 DEGF	-409.5 409.5
	Z05323 TP-OF DT HTR PWR 3	38.4 WATT	-409.5 409.5		Z05353 TP-OFF DUCT 3 AVG	112.0 DEGF	-409.5 409.5
	Z05324 TP-OF DT HTR PWR 4	61.2 WATT	-409.5 409.5		Z05354 TP-OFF DUCT 4 AVG	123.7 DEGF	-409.5 409.5
	Z05331 R-ETY DT HTR PWR 1	10.8 WATT	-409.5 409.5		Z05355 R-ETRY DUCT 1 AVG	45.4 DEGF	-409.5 409.5
	Z05332 R-ETY DT HTR PWR 2	13.6 WATT	-409.5 409.5		Z05356 R-ETRY DUCT 2 AVG	74.8 DEGF	-409.5 409.5
	Z05333 R-ETY DT HTR PWR 3	10.9 WATT	-409.5 409.5		Z05359 R-ETRY DUCT 3 AVG	52.9 DEGF	-409.5 409.5
	ZN5341 S S NOZ HTR PWR	27.7 WATT	-409.5 409.5		ZN5357 SS NOZZLE 1 AVG	139.6 DEGF	-409.5 409.5
	ZN5342 S S NOZ HTR PWR	27.7 WATT	-409.5 409.5		ZN5359 SS NOZZLE 2 AVG	142.2 DEGF	-409.5 409.5
‡‡	TM5403 MSFC ASPS TEMP 1	84.8 DEGF	-409.5 409.5		TM5404 MSFC ASPS TEMP 2	80.7 DEGF	-409.5 409
	TF5527 P FLO CONT VLV IN	40.3 DEGF	-409.5 409.5		TF5506 S FLO CONT VLV IN	50.7 DEGF	-409.5 409.5
#	TF5529 P CON OUT MIX CH	UUU DEGF	-409.5 409.5	#	TF5530 S CON OUT MIX CH	UUU DEGF	-409.5 409.5
#	TF5539 P CON OUT MIX CH	UUU DEGF	-409.5 409.5	#	TF5531 S CON OUT MIX CH	UUU DEGF	-409.5 409.5
‡‡‡	FM5643 HI FL TO PRT VALV	2764 PPH	- 4095 4095		FM5649 HI FLOW TO SEC PNL	2734 PPH	- 4095 4

CSD IR/EVAP SCOOP (0005) CHAMBER A

DAY 113, 04 HRS, 29 MIN, 59 SEC

-MID-	---DESCRIPTION----	---VALUE---	----LIMITS----		-MID-	---DESCRIPTION----	---VALUE---	----LIMITS----	
!	TF5001 F-21 IN TO EVAP 1	47.6 DEGF	-409.5	409.5		TF5007 F-21 IN TO EVAP 2	71.5 DEGF	-409.5	409
	TF5002 F-21 IN TO EVAP 1	46.2 DEGF	-409.5	409.5		TF5008 F-21 IN TO EVAP 2	71.9 DEGF	-409.5	409.5
	TF5003 F-21 OUT OF EVAP 1	43.0 DEGF	-409.5	409.5		TF5009 F-21 OUT OF EVAP 2	43.7 DEGF	-409.5	409.5
	TF5004 F-21 OUT OF EVAP 1	43.7 DEGF	-409.5	409.5		TF5010 F-21 OUT OF EVAP 2	43.7 DEGF	-409.5	409.5
	TW5005 H2O IN TO EVAP 1	46.6 DEGF	-409.5	409.5		TW5011 H2O IN TO EVAP 2	47.9 DEGF	-409.5	409.5
	TW5006 H2O IN TO EVAP 1	46.6 DEGF	-409.5	409.5		TW5012 H2O IN TO EVAP 2	47.5 DEGF	-409.5	409.5
!	TW5011 H2O IN TO EVAP 2	47.9 DEGF	-409.5	409.5		TD5017 EVAP EXH TOPOFF DT	124.1 DEGF	30.0	240
	TW5012 H2O IN TO EVAP 2	47.5 DEGF	-409.5	409.5		TD5018 EVAP EXH TOPOFF DT	100.4 DEGF	30.0	240.0
	TD5013 EVAP EXH TOPOFF DT	96.4 DEGF	30.0	240.0		TD5019 EVAP EXH TOPOFF DT	135.8 DEGF	30.0	240.0
	TD5014 EVAP EXH TOPOFF DT	67.8 DEGF	30.0	240.0		TD5020 EVAP EXH TOPOFF DT	135.8 DEGF	30.0	240.0
	TD5015 EVAP EXH TOPOFF DT	142.2 DEGF	30.0	240.0		TD5021 EVAP EXH TOPOFF DT	111.2 DEGF	30.0	240.0
	TD5016 EVAP EXH TOPOFF DT	115.1 DEGF	30.0	240.0		TD5022 EVAP EXH TOPOFF DT	104.5 DEGF	30.0	240.0
!	TD5023 EVAP RE-ENTRY DUCT	126.7 DEGF	30.0	240.0		TD5028 EVAP RE-ENTRY DUCT	44.9 DEGF	30.0	240
	TD5024 EVAP RE-ENTRY DUCT	147.3 DEGF	30.0	240.0		TD5029 EVAP RE-ENTRY DUCT	44.0 DEGF	30.0	240.0
	TD5025 EVAP RE-ENTRY DUCT	139.6 DEGF	30.0	240.0		TD5030 EVAP RE-ENTRY DUCT	52.4 DEGF	30.0	240.0
	TD5026 EVAP RE-ENTRY DUCT	135.8 DEGF	30.0	240.0		TD5031 EVAP RE-ENTRY DUCT	72.0 DEGF	30.0	240.0
	TD5027 EVAP RE-ENTRY DUCT	49.7 DEGF	30.0	240.0					
!	TD5032 EVAP EXH RE-ENTRY	77.5 DEGF	30.0	240.0		TD5034 EVAP EXH RE-ENTRY	86.4 DEGF	30.0	240
	TD5033 EVAP EXH RE-ENTRY	67.8 DEGF	30.0	240.0		TD5037 EVAP EXH RE-ENTRY	158.4 DEGF	30.0	240.0
	TD5034 EVAP EXH RE-ENTRY	51.2 DEGF	30.0	240.0		TD5038 EVAP EXH RE-ENTRY	153.4 DEGF	30.0	240.0
	TD5035 EVAP EXH RE-ENTRY	45.4 DEGF	30.0	240.0		TD5039 EVAP EXH RE-ENTRY	148.5 DEGF	30.0	240.0
						PN5051 H2O TK GN2 PRESS	25.5 PSI	-409.5	409.5
	PF5052 F-21 DIF PRSS EV 1	10.2 PSID	-409.5	409.5		PF5053 F-21 DIF PRSS EV 2	10.7 PSID	-409.5	409.5
	PW5054 H2O SUP PRSS TO EV	17.2 PSIA	-409.5	409.5		PW5055 H2O SUP PRSS TO EV	17.4 PSIA	-409.5	409.5
	PE5056 EVAP 1 CHMBR PRSS	3.23 TORR	-40.95	40.95		PE5057 EVAP 2 CHMBR PRSS	4.21 TORR	-40.95	40.95
!	PD5058 EXHT DUCT PRSS DP	0.15 TORR	-40.95	40.95		PD5065 EXHT DUCT PRSS DP	0.38 TORR	-40.95	40.
	PD5059 EXHT DUCT PRSS DP	0.15 TORR	-40.95	40.95		PD5066 EXHT DUCT PRSS DP	0.54 TORR	-40.95	40.95
	PD5060 EXHT DUCT PRSS DP	0.28 TORR	-40.95	40.95		PD5067 EXHT DUCT PRSS DP	0.57 TORR	-40.95	40.95
	PD5061 EXHT DUCT PRSS	1.35 TORR	-40.95	40.95		PD5068 EXHT DUCT PRSS DP	0.50 TORR	-40.95	40.95
	PD5062 EXHT DUCT PRSS	1.67 TORR	-40.95	40.95		PD5069 EXHT DUCT PRSS DP	0.40 TORR	-40.95	40.95
	PD5063 EXHT DUCT PRSS	1.63 TORR	-40.95	40.95		PD5070 EXHT DUCT PRSS DP	0.02 TORR	-40.95	40.95
	PD5064 EXHT DUCT PRSS	0.067 TORR	-4.095	4.095		PD5071 EXHT DUCT PRSS DP	0.038 TORR	-4.095	4.095
!									
	FW5082 H2O FLO TO FL EVAP	15.5 PPH	-409.5	409.5		FW5081 TOT H2O FLO TO EVP	30.0 PPH	-409.5	409
						FW5083 H2O FLO TO FL EVAP	14.2 PPH	-409.5	409.5
						WT5091 H2O TANK WEIGHT	106.1 LBS	-409.5	409.5
!	HI5170 TOP OFF DUCT HTR 1	2.27 AMPS	-40.95	40.95		HI5172 TOP OFF DUCT HTR 3	1.55 AMPS	-40.95	40.
	HI5171 TOP OFF DUCT HTR 2	2.71 AMPS	-40.95	40.95		HI5173 TOP OFF DUCT HTR 4	2.19 AMPS	-40.95	40.95
!	HI5174 R-ETY DT HTR PWR 1	0.88 AMPS	-40.95	40.95		HI5178 R-ETY DT HTR PWR 3	0.68 AMPS	-40.95	40.
	HI5175 R-ETY DT HTR PWR 2	0.95 AMPS	-40.95	40.95					
!	HI5176 S S NOZZLE HTR	0.31 AMPS	-40.95	40.95		HI5177 S S NOZZLE HTR	0.31 AMPS	-40.95	40.
!	FM5643 HI FL TO PRI VALV	2238 PPH	-4095	4095		FM5649 HI FLOW TO SEC PNL	2284 PPH	-4095	40
						FM5660 F21 TOTAL FLOW	4.51 KPPH	-40.95	40.95

TP 5 IND

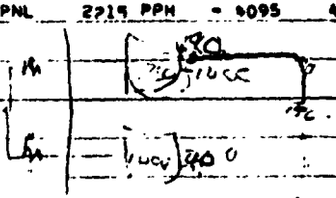
-MID-	---DESCRIPTION----	---VALUE---	----LIMITS----		-MID-	---DESCRIPTION----	---VALUE---	----LIMITS----	
‡‡	ZH5201 INST HT RJCT EV 1	12.5 KBTU	-409.5	409.5		ZH5202 INST HT RJCT EV 2	18.9 KBTU	-409.5	409
						ZH5203 INSTANT HEAT RJCT	28.4 KBTU	-409.5	409.5
‡‡	ZH5211 TOT HT RJCT EVP 1	11.4 KBTU	-409.5	409.5		ZH5212 TOT HT RJCT EVP 2	14.2 KBTU	-409.5	409
						ZH5213 TOT HT RJCT	25.6 KBTU	-409.5	409.5
‡‡	ZH5221 TOT WATR FLW EV	13.7 LBS	-409.5	409.5		ZH5222 TOT WATR FLW EV 2	12.4 LBS	-409.5	409
						ZH5223 TOT WATR FLW	26.2 LBS	-409.5	409.5
						ZH5224 WATR TNK DIFF WT.	24.9 LBS	-409.5	409.5
‡‡*	ZE5231 SIG EVE TOT EVP 1	5.24 HRS	-40.95	40.95	*	ZE5232 SIG EVE TOT EVP 2	5.24 HRS	-40.95	80.
					*	ZE5234 TOTAL TEST TIME	5.24 HRS	-40.95	40.95
‡‡	ZH5241 AVG HT LOAD EVP 1A	13.1 KBTU	-409.5	409.5		ZH5242 AVG HT LOAD EVP 2A	14.2 KBTU	-409.5	409
						ZH5243 AVG HT LOAD A	27.3 KBTU	-409.5	409.5
‡‡	ZH5251 AVG HT LOAD EVP 1B	15.0 KBTU	-409.5	409.5		ZH5252 AVG HT LOAD EVP 2B	15.0 KBTU	-409.5	409
						ZH5253 AVG HT LOAD B	30.0 KBTU	-409.5	409.5
‡‡	ZF5261 AVG WATR USE EV 1	15.6 LBSH	-409.5	409.5		ZF5262 AVG WATR USE EV 2	14.4 LBSH	-409.5	409
						ZF5263 AVG WATR USE A	30.0 LBSH	-409.5	409.5
						ZF5264 AVG WATR USE B	28.8 LBSH	-409.5	409.5
‡‡	ZH5271 AVG ENT CHNG EV 1	838 BTUP	- 4095	4095		ZH5272 AVG ENT CHNG EV 2	1126 BTUP	- 4095	40
						ZH5273 AVG ENTP CHNG A	974 BTUP	- 4095	4095
						ZH5281 AVG ENTP CHNG B	1029 BTUP	- 4095	4095
‡‡	ZT5301 MIN F-21 OUT TEM 1	52.6 DEGF	-409.5	409.5		ZT5302 MIN F-21 OUT TEM 2	42.3 DEGF	-409.5	409
#	ZT5311 MAX F-21 OUT TEM 1	R DEGF	-409.5	409.5	#	ZT5312 MAX F-21 OUT TEM 2	RRR DEGF	-409.5	409.5
‡‡	ZD5321 TP-OF DT HTR PWR 1	212.4 WATT	-409.5	409.5		ZD5351 TP-OFF DUCT 1 AVG	123.3 DEGF	-409.5	409
	ZD5322 TP-OF DT HTR PWR 2	228.6 WATT	-409.5	409.5		ZD5352 TP-OFF DUCT 2 AVG	132.8 DEGF	-409.5	409.5
	ZD5323 TP-OF DT HTR PWR 3	39.5 WATT	-409.5	409.5		ZD5353 TP-OFF DUCT 3 AVG	110.3 DEGF	-409.5	409.5
	ZD5324 TP-OF DT HTR PWR 4	61.4 WATT	-409.5	409.5		ZD5354 TP-OFF DUCT 4 AVG	125.4 DEGF	-409.5	409.5
	ZD5331 R-ETY DT HTR PWR 1	10.9 WATT	-409.5	409.5		ZD5355 R-ETNY DUCT 1 AVG	48.3 DEGF	-409.5	409.5
	ZD5332 R-ETY DT HTR PWR 2	14.0 WATT	-409.5	409.5		ZD5356 R-ETNY DUCT 2 AVG	77.8 DEGF	-409.5	409.5
	ZD5333 R-ETY DT HTR PWR 3	10.7 WATT	-409.5	409.5		ZD5359 R-ETRY DUCT 3 AVG	54.8 DEGF	-409.5	409.5
	ZN5341 S S NOZ HTR PWR	27.7 WATT	-409.5	409.5		ZN5357 SS NOZZLE 1 AVG	137.0 DEGF	-409.5	409.5
	ZN5342 S S NOZ HTR PWR	27.7 WATT	-409.5	409.5		ZN5358 SS NOZZLE 2 AVG	138.9 DEGF	-409.5	409.5
‡‡	TM5403 MSFC ASPS TEMP 1	84.8 DEGF	-409.5	409.5		TM5404 MSFC ASPS TEMP 2	82.1 DEGF	-409.5	409
	TF5501 P FLO CONT VLV IN	4.2 DEGF	-409.5	409.5		TF5506 S FLO CONT VLV IN	165.7 DEGF	-409.5	409.5
#	TF5528 P CON OUT MIX CH	UUU DEGF	-409.5	409.5	#	TF5530 S CON OUT MIX CH	UUU DEGF	-409.5	409.5
#	TF5529 P CON OUT MIX CH	UUU DEGF	-409.5	409.5	#	TF5531 S CON OUT MIX CH	UUU DEGF	-409.5	409.5
‡‡	FM5643 HI FL TO PRI VALV	2238 PPH	- 4095	4095		FM5649 HI FLOW TO SEC PNL	2264 PPH	- 4095	40

-MID-	---DESCRIPTION----	---VALUE---	----LIMITS----		-MID-	---DESCRIPTION----	---VALUE---	----LIMITS----	
‡‡	TF5001 F-21 IN TO EVAP 1	66.6 DEGF	-409.5	409.5		TF5007 F-21 IN TO EVAP 2	64.8 DEGF	-409.5	409
	TF5002 F-21 IN TO EVAP 1	65.4 DEGF	-409.5	409.5		TF5008 F-21 IN TO EVAP 2	70.2 DEGF	-409.5	409.5
	TF5003 F-21 OUT OF EVAP 1	45.8 DEGF	-409.5	409.5		TF5009 F-21 OUT OF EVAP 2	44.1 DEGF	-409.5	409.5
	TF5004 F-21 OUT OF EVAP 1	46.2 DEGF	-409.5	409.5		TF5010 F-21 OUT OF EVAP 2	44.1 DEGF	-409.5	409.5
	TW5005 H2O IN TO EVAP 1	112.3 DEGF	-409.5	409.5		TW5011 H2O IN TO EVAP 2	113.4 DEGF	-409.5	409.5
	TW5006 H2O IN TO EVAP 1	112.7 DEGF	-409.5	409.5		TW5012 H2O IN TO EVAP 2	113.1 DEGF	-409.5	409.5
‡‡	TW5011 H2O IN TO EVAP 2	113.4 DEGF	-409.5	409.5		TD5017 EVAP EXH TOPOFF DT	91.1 DEGF	30.0	240
	TW5012 H2O IN TO EVAP 2	113.1 DEGF	-409.5	409.5		TD5018 EVAP EXH TOPOFF DT	77.5 DEGF	30.0	240.0
	TD5013 EVAP EXH TOPOFF DT	45.4 DEGF	30.0	240.0		TD5019 EVAP EXH TOPOFF DT	121.5 DEGF	30.0	240.0
	TD5014 EVAP EXH TOPOFF DT	54.0 DEGF	30.0	240.0		TD5020 EVAP EXH TOPOFF DT	134.5 DEGF	30.0	240.0
	TD5015 EVAP EXH TOPOFF DT	104.5 DEGF	30.0	240.0		TD5021 EVAP EXH TOPOFF DT	111.2 DEGF	30.0	240.0
	TD5016 EVAP EXH TOPOFF DT	83.0 DEGF	30.0	240.0		TD5022 EVAP EXH TOPOFF DT	96.4 DEGF	30.0	240.0
‡‡	TD5023 EVAP RE-ENTRY DUCT	125.4 DEGF	30.0	240.0		TD5028 EVAP RE-ENTRY DUCT	44.9 DEGF	30.0	240
	TD5024 EVAP RE-ENTRY DUCT	144.8 DEGF	30.0	240.0		TD5029 EVAP RE-ENTRY DUCT	45.4 DEGF	30.0	240.0
	TD5025 EVAP RE-ENTRY DUCT	119.0 DEGF	30.0	240.0		TD5030 EVAP RE-ENTRY DUCT	52.4 DEGF	30.0	240.0
	TD5026 EVAP RE-ENTRY DUCT	115.1 DEGF	30.0	240.0		TD5031 EVAP RE-ENTRY DUCT	69.2 DEGF	30.0	240.0
	TD5027 EVAP RE-ENTRY DUCT	48.3 DEGF	30.0	240.0					
	TD5032 EVAP EXH RE-ENTRY	74.8 DEGF	30.0	240.0		TD5036 EVAP EXH RE-ENTRY	80.3 DEGF	30.0	240.0
	TD5033 EVAP EXH RE-ENTRY	66.5 DEGF	30.0	240.0		TD5037 EVAP EXH RE-ENTRY	109.8 DEGF	30.0	240.0
	TD5034 EVAP EXH RE-ENTRY	52.6 DEGF	30.0	240.0		TD5038 EVAP EXH RE-ENTRY	133.2 DEGF	30.0	240.0
	TD5035 EVAP EXH RE-ENTRY	46.9 DEGF	30.0	240.0		TD5039 EVAP EXH RE-ENTRY	117.7 DEGF	30.0	240.0
‡‡						PN5051 H2O TK GN2 PRESS	24.3 PSI	-409.5	409
	PF5042 F-21 DIF PRSS EV 1	10.4 PSID	-409.5	409.5		PF5053 F-21 DIF PRSS EV 2	10.2 PSID	-409.5	409.5
	PW5054 H2O SUP PRSS TO EV	21.9 PSIA	-409.5	409.5		PW5055 H2O SUP PRSS TO EV	22.1 PSIA	-409.5	409.5
	PE5056 EVAP 1 CHMBR PRSS	2.96 TORR	-40.95	40.95		PE5057 EVAP 2 CHMBR PRSS	3.74 TORR	-40.95	40.95
‡‡	PD5058 EXHT DUCT PRSS DP	0.20 TORR	-40.95	40.95		PD5065 EXHT DUCT PRSS DP	0.40 TORR	-40.95	40.
	PD5059 EXHT DUCT PRSS DP	0.15 TORR	-40.95	40.95		PD5066 EXHT DUCT PRSS DP	0.5, TORR	-40.95	40.95
	PD5060 EXHT DUCT PRSS DP	0.26 TORR	-40.95	40.95		PD5067 EXHT DUCT PRSS DP	0.54 TORR	-40.95	40.95
	PD5061 EXHT DUCT PRSS	1.27 TORR	-40.95	40.95		PD5068 EXHT DUCT PRSS DP	0.43 TORR	-40.95	40.95
	PD5062 EXHT DUCT PRSS	1.51 TORR	-40.95	40.95		PD5069 EXHT DUCT PRSS DP	0.56 TORR	-40.95	40.95
	PD5063 EXHT DUCT PRSS	1.31 TORR	-40.95	40.95		PD5070 EXHT DUCT PRSS DP	0.01 TORR	-40.95	40.95
	PD5064 EXHT DUCT PRSS	0.065 TORR	-4.095	4.095		PD5071 EXHT DUCT PRSS DP	0.036 TORR	-4.095	4.095
‡‡						FW5081 TOT H2O FLO TO EVP	28.3 PPH	-409.5	409
	FW5082 H2O FLO TO FL EVAP	14.8 PPH	-409.5	409.5		FW5083 H2O FLO TO FL EVAP	13.8 PPH	-409.5	409.5
						WT5091 H2O TANK WEIGHT	85.4 LBS	-409.5	409.5
‡‡	HI5170 TOP OFF DUCT HTR 1	2.32 AMPS	-40.95	40.95		HI5172 TOP OFF DUCT HTR 3	1.59 AMPS	-40.95	40.
	HI5171 TOP OFF DUCT HTR 2	2.71 AMPS	-40.95	40.95		HI5173 TOP OFF DUCT HTR 4	2.33 AMPS	-40.95	40.95
	HI5174 R-ETY DT HTR PWR 1	0.84 AMPS	-40.95	40.95		HI5178 R-ETY DT HTR PWR 3	0.68 AMPS	-40.95	40.95
	HI5175 R-ETY DT HTR PWR 2	0.95 AMPS	-40.95	40.95					
‡‡	HI5176 S S NOZZLE HTR	0.31 AMPS	-40.95	40.95		HI5177 S S NOZZLE HTR	0.31 AMPS	-40.95	40.
‡‡	FW5643 HI FL TO PRI VALV	2251 PPH	-4095	4095		FW5649 HI FLOW TO SEC PNL	2215 PPH	-4095	40
						FW5660 F21 TOTAL FLOW	4.48 KPPH	-40.95	40.95

1 of 6

PAGE 02 CSD IR/EVAP SCOOP (0006) CHAMBER A DAY 113, 08 HRS, 30 MIN, 00 SEC

	-MID-	---DESCRIPTION----	---VALUE---	----LIMITS----		-MID-	---DESCRIPTION----	---VALUE---	----LIMITS----	
!	ZD5201	INST HT RJCT EV 1	10.8 KBTU	-409.5	409.5	ZD5202	INST HT RJCT EV 2	14.4 KBTU	-409.5	409
						ZD5203	INSTANT HEAT RJCT	25.2 KBTU	-409.5	409.5
!	ZD5211	TOT HT RJCT EVP 1	15.4 KBTU	-409.5	409.5	ZD5212	TOT HT RJCT EVP 2	20.0 KBTU	-409.5	409
						ZD5213	TOT HT RJCT	35.5 KBTU	-409.5	409.5
!	ZW5221	TOT WATR FLW EV 1	20.8 LBS	-409.5	409.5	ZW5222	TOT WATR FLW EV 2	20.2 LBS	-409.5	409
						ZW5223	TOT WATR FLW	41.0 LBS	-409.5	409.5
						ZW5224	WATR TNK DIFF WT.	39.1 LBS	-409.5	409.5
!	ZE5231	SIG EVE TOT EVP 1	8.55 HRS	-40.95	40.95	* ZE5232	SIG EVE TOT EVP 2	8.55 HRS	-40.95	40.
						* ZE5234	TOTAL TEST TIME	8.58 HRS	-40.95	40.95
!	ZD5241	AVG HT LOAD EVP 1A	10.8 KBTU	-409.5	409.5	ZD5242	AVG HT LOAD EVP 2A	14.1 KBTU	-409.5	409
						ZD5243	AVG HT LOAD A	24.9 KBTU	-409.5	409.5
!	ZD5251	AVG HT LOAD EVP 1B	0.0 KBTU	-409.5	409.5	ZD5252	AVG HT LOAD EVP 2B	0.0 KBTU	-409.5	409
						ZD5253	AVG HT LOAD B	0.0 KBTU	-409.5	409.5
!	ZF5261	AVG WATR USE EV 1	14.6 LBSH	-409.5	409.5	ZF5262	AVG WATR USE EV 2	14.2 LBSH	-409.5	409
						ZF5263	AVG WATR USE A	28.7 LBSH	-409.5	409.5
						ZF5264	AVG WATR USE B	27.4 LBSH	-409.5	409.5
	ZH5271	AVG ENT CHNG EV 1	742 BTUP	= 4095	4095	ZH5272	AVG ENT CHNG EV 2	993 BTUP	= 4095	4095
						ZH5273	AVG ENTP CHNG A	864 BTUP	= 4095	4095
						ZH5281	AVG ENTP CHNG B	907 BTUP	= 4095	4095
!	ZT5301	MIN F-21 OUT TEM 1	0.0 DEGF	-409.5	409.5	ZT5302	MIN F-21 OUT TEM 2	0.0 DEGF	-409.5	409
	ZT5311	MAX F-21 OUT TEM 1	49.1 DEGF	-409.5	409.5	ZT5312	MAX F-21 OUT TEM 2	48.3 DEGF	-409.5	409.5
!	ZD5321	TP-OF DT HTR PWR 1	219.9 WATT	-409.5	409.5	ZD5351	TP-OFF DUCT 1 AVG	101.6 DEGF	-409.5	409
	ZD5322	TP-OF DT HTR PWR 2	225.6 WATT	-409.5	409.5	ZD5352	TP-OFF DUCT 2 AVG	86.6 DEGF	-409.5	409.5
*	ZD1297	TP-OF DT HTR PWR 3	YES WATT			ZD5353	TP-OFF DUCT 3 AVG	96.9 DEGF	-409.5	409.5
	ZD5324	TP-OF DT HTR PWR 4	66.1 WATT	-409.5	409.5	ZD5354	TP-OFF DUCT 4 AVG	98.1 DEGF	-409.5	409.5
	ZD5331	R-ETY DT HTR PWR 1	10.5 WATT	-409.5	409.5	ZD5355	R-ETRY DUCT 1 AVG	48.3 DEGF	-409.5	409.5
	ZD5332	R-ETY DT HTR PWR 2	13.6 WATT	-409.5	409.5	ZD5356	R-ETRY DUCT 2 AVG	74.8 DEGF	-409.5	409.5
	ZD5333	R-ETY DT HTR PWR 3	10.3 WATT	-409.5	409.5	ZD5359	R-ETRY DUCT 3 AVG	55.3 DEGF	-409.5	409.5
	ZN5341	S S NOZ HTR PWR	27.7 WATT	-409.5	409.5	ZN5357	SS NOZZLE 1 AVG	135.1 DEGF	-409.5	409.5
	ZN5342	S S NOZ HTR PWR	27.7 WATT	-409.5	409.5	ZN5358	SS NOZZLE 2 AVG	117.1 DEGF	-409.5	409.5
!	TM5403	MSFC ASPS TEMP 1	86.2 DEGF	-409.5	409.5	TM5404	MSFC ASPS TEMP 2	82.1 DEGF	-409.5	409
#	TF5501	P FLO CONT VLV IN	LLL DEGF	-409.5	409.5	# TF5506	S FLO CONT VLV IN	LLL DEGF	-409.5	409.5
#	TF5528	P CON OUT MIX CH	UUU DEGF	-409.5	409.5	# TF5530	S CON OUT MIX CH	UUU DEGF	-409.5	409.5
#	TF5529	P CON OUT MIX CH	UUU DEGF	-409.5	409.5	# TF5531	S CON OUT MIX CH	UUU DEGF	-409.5	409.5
!	FM5643	HI FL TO PRI VALV	2251 PPH	= 4095	4095	FM5649	HI FLOW TO SEC PNL	2219 PPH	= 4095	40



C-13

TP #7

PAGE 11 ESS 1&2/EVAP SCRUB (0010S) CHAMBER A DAY 113, 12 HRS, 40 MIN, 45 SEC

-MID-	-DESCRIPTION-	-VALUE-	-LIMITS-		-MID-	-DESCRIPTION-	-VALUE-	-LIMITS-	
!!	TF5001 F-21 IN TO EVAP 1	61.0 DEGF	-409.5	409.5		TF5007 F-21 IN TO EVAP 2	54.6 DEGF	-409.5	409
	TF5002 F-21 IN TO EVAP 1	51.4 DEGF	-409.5	409.5		TF5008 F-21 IN TO EVAP 2	49.0 DEGF	-409.5	409.5
	TF5003 F-21 OUT OF EVAP 1	62.6 DEGF	-409.5	409.5		TF5009 F-21 OUT OF EVAP 2	47.3 DEGF	-409.5	409.5
	TF5004 F-21 OUT OF EVAP 1	62.6 DEGF	-409.5	409.5		TF5010 F-21 OUT OF EVAP 2	47.3 DEGF	-409.5	409.5
	TF5005 H2O IN TO EVAP 1	118.4 DEGF	-409.5	409.5		TF5011 H2O IN TO EVAP 2	120.3 DEGF	-409.5	409.5
	TF5006 H2O IN TO EVAP 1	118.8 DEGF	-409.5	409.5		TF5012 H2O IN TO EVAP 2	120.0 DEGF	-409.5	409.5
!!	TF5011 H2O IN TO EVAP 2	120.3 DEGF	-409.5	409.5		TD5017 EVAP EXH TOPOFF DT	72.0 DEGF	30.0	240
	TF5012 H2O IN TO EVAP 2	120.0 DEGF	-409.5	409.5		TD5018 EVAP EXH TOPOFF DT	62.9 DEGF	30.0	240.0
	TD5013 EVAP EXH TOPOFF DT	41.1 DEGF	30.0	240.0		TD5019 EVAP EXH TOPOFF DT	108.5 DEGF	30.0	240.0
	TD5014 EVAP EXH TOPOFF DT	60.9 DEGF	30.0	240.0		TD5020 EVAP EXH TOPOFF DT	130.6 DEGF	30.0	240.0
	TD5015 EVAP EXH TOPOFF DT	77.5 DEGF	30.0	240.0		TD5021 EVAP EXH TOPOFF DT	111.2 DEGF	30.0	240.0
	TD5016 EVAP EXH TOPOFF DT	51.2 DEGF	30.0	240.0		TD5022 EVAP EXH TOPOFF DT	92.4 DEGF	30.0	240.0
!!	TD5023 EVAP RE-ENTRY DUCT	122.8 DEGF	30.0	240.0		TD5028 EVAP RE-ENTRY DUCT	44.9 DEGF	30.0	240
	TD5024 EVAP RE-ENTRY DUCT	143.5 DEGF	30.0	240.0		TD5029 EVAP RE-ENTRY DUCT	45.4 DEGF	30.0	240.0
	TD5025 EVAP RE-ENTRY DUCT	112.5 DEGF	30.0	240.0		TD5030 EVAP RE-ENTRY DUCT	52.4 DEGF	30.0	240.0
	TD5026 EVAP RE-ENTRY DUCT	104.5 DEGF	30.0	240.0		TD5031 EVAP RE-ENTRY DUCT	46.5 DEGF	30.0	240.0
	TD5027 EVAP RE-ENTRY DUCT	46.9 DEGF	30.0	240.0					
!!	TD5032 EVAP EXH RE-ENTRY	70.6 DEGF	30.0	240.0		TD5036 EVAP EXH RE-ENTRY	74.8 DEGF	30.0	240
	TD5033 EVAP EXH RE-ENTRY	63.7 DEGF	30.0	240.0		TD5037 EVAP EXH RE-ENTRY	101.0 DEGF	30.0	240.0
	TD5034 EVAP EXH RE-ENTRY	49.7 DEGF	30.0	240.0		TD5038 EVAP EXH RE-ENTRY	115.1 DEGF	30.0	240.0
	TD5035 EVAP EXH RE-ENTRY	44.0 DEGF	30.0	240.0		TD5039 EVAP EXH RE-ENTRY	89.7 DEGF	30.0	240.0
!!						PN5051 H2O TK GN2 PRESS	13.5 PSI	-409.5	409
	PF5052 F-21 DIF PRSS EV 1	12.0 PSID	-409.5	409.5		PF5053 F-21 DIF PRSS EV 2	11.5 PSID	-409.5	409.5
	PF5054 H2O SUP PRSS TO EV	15.8 PSIA	-409.5	409.5		PN5055 H2O SUP PRSS TO EV	11.3 PSIA	-409.5	409.5
	PE5056 EVAP 1 CHMBR PRSS	2.92 TORR	-40.95	40.95		PE5057 EVAP 2 CHMBR PRSS	2.33 TORR	-40.95	40.95
!!	PD5058 EXHT DUCT PRSS DP	0.11 TORR	-40.95	40.95		PD5065 EXHT DUCT PRSS DP	0.28 TORR	-40.95	40.
	PD5059 EXHT DUCT PRSS DP	0.16 TORR	-40.95	40.95		PD5066 EXHT DUCT PRSS DP	0.11 TORR	-40.95	40.95
	PD5060 EXHT DUCT PRSS DP	0.29 TORR	-40.95	40.95		PD5067 EXHT DUCT PRSS DP	0.50 TORR	-40.95	40.95
	PD5061 EXHT DUCT PRSS	1.20 TORR	-40.95	40.95		PD5068 EXHT DUCT PRSS DP	0.43 TORR	-40.95	40.95
	PD5062 EXHT DUCT PRSS	1.47 TORR	-40.95	40.95		PD5069 EXHT DUCT PRSS DP	0.54 TORR	-40.95	40.95
	PD5063 EXHT DUCT PRSS	1.47 TORR	-40.95	40.95		PD5070 EXHT DUCT PRSS DP	0.05 TORR	-40.95	40.95
	PD5064 EXHT DUCT PRSS	0.064 TORR	-4.095	4.095		PD5071 EXHT DUCT PRSS DP	0.035 TORR	-4.095	4.095
!!						FW5081 TOT H2O FLO TO EVP	28.3 PPH	-409.5	409
	FW5082 H2O FLO TO FL EVAP	14.8 PPH	-409.5	409.5		FW5083 H2O FLO TO FL EVAP	14.2 PPH	-409.5	409.5
						WT5091 H2O TANK WEIGHT	75.3 LBS	-409.5	409.5
!!	HI5170 TOP OFF DUCT HTR 1	2.33 AMPS	-40.95	40.95		HI5172 TOP OFF DUCT HTR 3	1.59 AMPS	-40.95	40.
	HI5171 TOP OFF DUCT HTR 2	2.76 AMPS	-40.95	40.95		HI5173 TOP OFF DUCT HTR 4	2.28 AMPS	-40.95	40.95
!!	HI5174 R-ETY DT HTR PWR 1	0.86 AMPS	-40.95	40.95		HI5178 R-ETY DT HTR PWR 3	0.67 AMPS	-40.95	40.
	HI5175 R-ETY DT HTR PWR 2	0.92 AMPS	-40.95	40.95					
!!	HI5176 S S NOZZLE HTR	0.40 AMPS	-40.95	40.95		HI5177 S S NOZZLE HTR	0.40 AMPS	-40.95	40.
!!	FW5643 HI FL TO PRI VALV	2751 PPH	- 4095	4095		FW5649 HI FLOW TO SEC PNL	2746 PPH	- 4095	40
						FW5660 F21 TOTAL FLOW	5.48 KPPH	-40.95	40.95

C-14

pull glycol out

CSD IR/EVAP SCOOP (0006) CHAMBER A

DAY 113, 12 HRS, 40 MIN, 45 SEC

-MID-	---DESCRIPTION----	---VALUE---	----LIMITS----	
‡‡	ZD5201 INST HT RJCT EV 1	11.4 KBTU	-409.5	409.5
‡‡	ZD5211 TOT HT RJCT EVP 1	5.7 KBTU	-409.5	409.5
‡‡	ZW5221 TOT WATR FLW EV 1	7.4 LBS	-409.5	409.5
‡‡*	ZE5231 SIG EVE TOT EVP 1	3.00 HRS	-40.95	40.95
‡‡	ZD5241 AVG HT LOAD EVP 1A	11.4 KBTU	-409.5	409.5
‡‡	ZD5251 AVG HT LOAD EVP 1B	15.0 KBTU	-409.5	409.5
	ZF5241 AVG WATR USE EV 1	14.8 LBSH	-409.5	409.5
‡‡	ZH5271 AVG ENT CHNG EV 1	769 BTUP	- 4095	4095
‡‡	ZT5301 MIN F-21 OUT TEM 1	42.3 DEGF	-409.5	409.5
#	ZT5311 MAX F-21 OUT TEM 1	RRR DEGF	-409.5	409.5
	ZD5321 TP-OF DT HTR PWR 1	221.4 WATT	-409.5	409.5
	ZD5322 TP-OF DT HTR PWR 2	232.4 WATT	-409.5	409.5
	ZD5323 TP-OF DT HTR PWR 3	39.7 WATT	-409.5	409.5
	ZD5324 TP-OF DT HTR PWR 4	60.7 WATT	-409.5	409.5
	ZD5331 R-ETY DT HTR PWR 1	10.5 WATT	-409.5	409.5
	ZD5332 R-ETY DT HTR PWR 2	13.0 WATT	-409.5	409.5
	ZD5333 R-ETY DT HTR PWR 3	10.0 WATT	-409.5	409.5
	ZN5341 S S NOZ HTR PWR	44.3 WATT	-409.5	409.5
	ZN5342 S S NOZ HTR PWR	44.3 WATT	-409.5	409.5
‡‡	TM5403 MSFC ASPS TEMP 1	84.8 DEGF	-409.5	409.5
#	TF5501 P FLO CONT VLV IN	LLL DEGF	-409.5	409.5
#	TF5528 P CON OUT MIX CH	UUU DEGF	-409.5	409.5
#	TF5529 P CON OUT MIX CH	UUU DEGF	-409.5	409.5
‡‡	FM5643 HI FL TO PRI VALV	2751 PPH	- 4095	4095

-MID-	---DESCRIPTION----	---VALUE---	----LIMITS----	
	ZD5202 INST HT RJCT EV 2	11.5 KBTU	-409.5	409
	ZD5203 INSTANT HEAT RJCT	22.9 KBTU	-409.5	409.5
	ZD5212 TOT HT RJCT EVP 2	5.8 KBTU	-409.5	409
	ZD5213 TOT HT RJCT	11.5 KBTU	-409.5	409.5
	ZW5222 TOT WATR FLW EV 2	7.1 LBS	-409.5	409
	ZW5223 TOT WATR FLW	14.5 LBS	-409.5	409.5
	ZW5224 WATR TNK DIFF WT.	13.0 LBS	-409.5	409.5
*	ZE5232 SIG EVE TOT EVP 2	3.00 HRS	-40.95	40.
*	ZE5234 TOTAL TEST TIME	3.00 HRS	-40.95	40.95
	ZD5242 AVG HT LOAD EVP 2A	11.6 KBTU	-409.5	409
	ZD5243 AVG HT LOAD A	23.0 KBTU	-409.5	409.5
	ZD5252 AVG HT LOAD EVP 2B	16.0 KBTU	-409.5	409
	ZD5253 AVG HT LOAD B	30.0 KBTU	-409.5	409.5
	ZF5262 AVG WATR USE EV 2	14.9 LBSH	-409.5	409.5
	ZF5263 AVG WATR USE A	29.1 LBSH	-409.5	409.5
	ZF5264 AVG WATR USE B	26.0 LBSH	-409.5	409.5
	ZH5272 AVG ENT CHNG EV 2	809 BTUP	- 4095	40
	ZH5273 AVG ENTP CHNG A	789 BTUP	- 4095	4095
	ZH5281 AVG ENTP CHNG B	883 BTUP	- 4095	4095
	ZT5302 MIN F-21 OUT TEM 2	47.0 DEGF	-409.5	409
#	ZT5312 MAX F-21 OUT TEM 2	RRR DEGF	-409.5	409.5
	ZD5351 TP-OFF DUCT 1 AVG	88.6 DEGF	-409.5	409.5
	ZD5352 TP-OFF DUCT 2 AVG	73.5 DEGF	-409.5	409.5
	ZD5353 TP-OFF DUCT 3 AVG	84.9 DEGF	-409.5	409.5
	ZD5354 TP-OFF DUCT 4 AVG	77.2 DEGF	-409.5	409.5
	ZD5355 R-ETRY DUCT 1 AVG	48.0 DEGF	-409.5	409.5
	ZD5356 R-ETRY DUCT 2 AVG	70.4 DEGF	-409.5	409.5
	ZD5359 R-ETRY DUCT 3 AVG	52.9 DEGF	-409.5	409.5
	ZN5357 SS NOZZLE 1 AVG	133.2 DEGF	-409.5	409.5
	ZN5358 SS NOZZLE 2 AVG	108.5 DEGF	-409.5	409.5
	TM5404 MSFC ASPS TEMP 2	79.3 DEGF	-409.5	409
#	TF5506 S FLO CONT VLV IN	LLL DEGF	-409.5	409.5
#	TF5530 S CON OUT MIX CH	UUU DEGF	-409.5	409.5
#	TF5531 S CON OUT MIX CH	UUU DEGF	-409.5	409.5
	FM5649 HI FLOW TO SEC PNL	2746 PPH	- 4095	40

-MID-	---DESCRIPTION----	---VALUE---	----LIMITS----		-MID-	---DESCRIPTION----	---VALUE---	----LIMITS----	
TF5001	F-21 IN TO EVAP 1	61.0 DEGF	-409.5	409.5	TF5007	F-21 IN TO EVAP 2	64.2 DEGF	-409.5	409.5
TF5002	F-21 IN TO EVAP 1	59.6 DEGF	-409.5	409.5	TF5008	F-21 IN TO EVAP 2	64.2 DEGF	-409.5	409.5
TF5003	F-21 OUT OF EVAP 1	41.9 DEGF	-409.5	409.5	TF5009	F-21 OUT OF EVAP 2	47.0 DEGF	-409.5	409.5
TF5004	F-21 OUT OF EVAP 1	42.3 DEGF	-409.5	409.5	TF5010	F-21 OUT OF EVAP 2	47.5 DEGF	-409.5	409.5
TW5005	H2O IN TO EVAP 1	119.6 DEGF	-409.5	409.5	TW5011	H2O IN TO EVAP 2	121.1 DEGF	-409.5	409.5
TW5006	H2O IN TO EVAP 1	119.6 DEGF	-409.5	409.5	TW5012	H2O IN TO EVAP 2	120.7 DEGF	-409.5	409.5
**	T-5011 H2O IN TO EVAP 2	121.1 DEGF	-409.5	409.5	TD5017	EVAP EXH TOPOFF DT	86.7 DEGF	30.0	240
	TW5012 H2O IN TO EVAP 2	120.7 DEGF	-409.5	409.5	TD5018	EVAP EXH TOPOFF DT	54.0 DEGF	30.0	240.0
	TD5013 EVAP EXH TOPOFF DT	42.5 DEGF	30.0	240.0	TD5019	EVAP EXH TOPOFF DT	109.8 DEGF	30.0	240.0
	TD5014 EVAP EXH TOPOFF DT	59.5 DEGF	30.0	240.0	TD5020	EVAP EXH TOPOFF DT	115.1 DEGF	30.0	240.0
	TD5015 EVAP EXH TOPOFF DT	108.5 DEGF	30.0	240.0	TD5021	EVAP EXH TOPOFF DT	99.1 DEGF	30.0	240.0
	TD5016 EVAP EXH TOPOFF DT	83.0 DEGF	30.0	240.0	TD5022	EVAP EXH TOPOFF DT	88.4 DEGF	30.0	240.0
**	TD5023 EVAP RE-ENTRY DUCT	103.1 DEGF	30.0	240.0	TD5028	EVAP RE-ENTRY DUCT	44.9 DEGF	30.0	240
	TD5024 EVAP RE-ENTRY DUCT	115.1 DEGF	30.0	240.0	TD5029	EVAP RE-ENTRY DUCT	45.4 DEGF	30.0	240.0
	TD5025 EVAP RE-ENTRY DUCT	46.4 DEGF	30.0	240.0	TD5030	EVAP RE-ENTRY DUCT	52.6 DEGF	30.0	240.0
	TD5026 EVAP RE-ENTRY DUCT	73.4 DEGF	30.0	240.0	TD5031	EVAP RE-ENTRY DUCT	67.8 DEGF	30.0	240.0
	TD5027 EVAP RE-ENTRY DUCT	48.3 DEGF	30.0	240.0					
**	TD5032 EVAP EXH RE-ENTRY	72.0 DEGF	30.0	240.0	TD5036	EVAP EXH RE-ENTRY	76.2 DEGF	30.0	240
	TD5033 EVAP EXH RE-ENTRY	65.1 DEGF	30.0	240.0	TD5037	EVAP EXH RE-ENTRY	115.1 DEGF	30.0	240.0
	TD5034 EVAP EXH RE-ENTRY	49.7 DEGF	30.0	240.0	TD5038	EVAP EXH RE-ENTRY	124.1 DEGF	30.0	240.0
	TD5035 EVAP EXH RE-ENTRY	44.0 DEGF	30.0	240.0	TD5039	EVAP EXH RE-ENTRY	120.3 DEGF	30.0	240.0
					PN5051	H2O TK GN2 PRESS	29.1 PSI	-409.5	409.5
	PF5052 F-21 DIF PRSS EV 1	15.3 PSID	-409.5	409.5	PF5053	F-21 DIF PRSS EV 2	15.7 PSID	-409.5	409.5
	PW5054 H2O SUP PRSS TO EV	25.7 PSIA	-409.5	409.5	PW5055	H2O SUP PRSS TO EV	18.0 PSIA	-409.5	409.5
	PE5056 EVAP 1 CHMBR PRSS	3.03 TORR	-40.95	40.95	PE5057	EVAP 2 CHMBR PRSS	2.13 TORR	-40.95	40.95
**	PD5058 EXHT DUCT PRSS DP	0.14 TORR	-40.95	40.95	PD5065	EXHT DUCT PRSS DP	0.30 TORR	-40.95	40.
	PD5059 EXHT DUCT PRSS DP	0.17 TORR	-40.95	40.95	* PD5066	EXHT DUCT PRSS DP	LLL TORR	-40.95	40.95
	PD5060 EXHT DUCT PRSS DP	0.30 TORR	-40.95	40.95	PD5067	EXHT DUCT PRSS DP	0.52 TORR	-40.95	40.95
	PD5061 EXHT DUCT PRSS	1.27 TORR	-40.95	40.95	PD5068	EXHT DUCT PRSS DP	0.44 TORR	-40.95	40.95
	PD5062 EXHT DUCT PRSS	1.55 TORR	-40.95	40.95	PD5069	EXHT DUCT PRSS DP	0.60 TORR	-40.95	40.95
	PD5063 EXHT DUCT PRSS	1.55 TORR	-40.95	40.95	PD5070	EXHT DUCT PRSS DP	0.08 TORR	-40.95	40.95
	PD5064 EXHT DUCT PRSS	0.066 TORR	-4.095	4.095	PD5071	EXHT DUCT PRSS DP	0.037 TORR	-4.095	4.095
**					FW5081	TOT H2O FLO TO FVP	28.7 PPH	-409.5	409
	FW5082 H2O F O TO FL EVAP	15.1 PPH	-409.5	409.5	FW5083	H2O FLO TO FL EVAP	13.8 PPH	-409.5	409.5
					WT5091	H2O TANK WEIGHT	54.0 LBS	-409.5	409.5
	HI5170 TOP OFF DUCT HTR 1	2.25 AMPS	-40.95	40.95	HI5172	TOP OFF DUCT HTR 3	1.59 AMPS	-40.95	40.95
	HI5171 TOP OFF DUCT HTR 2	2.76 AMPS	-40.95	40.95	HI5173	TOP OFF DUCT HTR 4	2.28 AMPS	-40.95	40.95
**	HI5174 R-ETY DT HTR PWR 1	0.84 AMPS	-40.95	40.95	HI5178	R-ETY DT HTR PWR 3	0.66 AMPS	-40.95	40.
	HI5175 R-ETY DT HTR PWR 2	0.92 AMPS	-40.95	40.95					
**	HI5176 S S NOZZLE HTR	0.18 AMPS	-40.95	40.95	HI5177	S S NOZZLE HTR	0.18 AMPS	-40.95	40.
**	FM5643 HI FL TO PRI VALV	2764 PPH	- 4095	4095	FM5649	HI FLOW TO SEC PNL	2746 PPH	- 4095	40
					FM5660	F21 TOTAL FLOW	5.51 KPPH	-40.95	40.95

DA [illegible] CSTL IHZEVAP SCOOP (10005) CHAMBER A DAY 113, 13 HRS, 30 MIN, 00 SEC

-MI---	---DESCRIPTION----	---VALUE---	----LIMITS----		-MI---	---DESCRIPTION----	---VALUE---	----LIMITS----	
::	Z05201 INST HT RJCT EV 1	7 KBTU	-409.5	409.5		Z05202 INST HT RJCT EV 2	11.7 KBTU	-409.5	40
						Z05203 INSTANT HEAT RJCT	23.4 KBTU	-409.5	409.5
::	Z05211 TOT HT RJCT EVP 1	4.6 KBTU	-409.5	409.5		Z05212 TOT HT RJCT EVP 2	4.8 KBTU	-409.5	409
						Z05213 TOT HT RJCT	9.4 KBTU	-409.5	409.5
::	Z05221 TOT WATR FLW EV 1	6.1 LBS	-409.5	409.5		Z05222 TOT WATR FLW EV 2	5.7 LBS	-409.5	409
						Zw5223 TOT WATR FLW	11.7 LBS	-409.5	409.5
						Zw5224 WATR TNK DIFF WT.	11.2 LBS	-409.5	409.5
::	ZE5231 SIG EVE TOT EVP 1	2.40 HRS	-40.95	40.95	*	ZE5232 SIG EVE TOT EVP 2	2.40 HRS	-40.95	40.
					*	ZE5234 TOTAL TEST TIME	2.40 HRS	-40.95	40.95
::	Z05241 AVG HT LOAD EVP 1A	11.0 KBTU	-409.5	409.5		Z05242 AVG HT LOAD EVP 2A	11.0 KBTU	-409.5	409
						Z05243 AVG HT LOAD A	23.6 KBTU	-409.5	409.5
::	Z05251 AVG HT LOAD EVP 1B	15.0 KBTU	-409.5	409.5		Z05252 AVG HT LOAD EVP 2B	15.0 KBTU	-409.5	409
						Z05253 AVG HT LOAD B	30.0 KBTU	-409.5	409.5
::	ZF5261 AVG WATR USE EV 1	15.2 LBSM	-409.5	409.5		ZF5262 AVG WATR USE EV 2	14.2 LBSM	-409.5	409
						ZF5263 AVG WATR USE A	29.4 LBSM	-409.5	409.5
						ZF5264 AVG WATR USE B	28.0 LBSM	-409.5	409.5
::	ZH5271 AVG ENT CHNG EV 1	761 BTUP	- 4095	4095		ZH5272 AVG ENT CHNG EV 2	843 BTUP	- 4095	40
						ZH5273 AVG ENTP CHNG A	801 BTUP	- 4095	4095
						ZH5281 AVG ENTP CHNG B	839 BTUP	- 4095	4095
::	ZT5301 MIN F-21 OUT TEM 1	41.6 DEGF	-409.5	409.5		ZT5302 MIN F-21 OUT TEM 2	44.2 DEGF	-409.5	409
#	ZT5311 MAX F-21 OUT TEM 1	RRR DEGF	-409.5	409.5	#	ZT5312 MAX F-21 OUT TEM 2	RRR DEGF	-409.5	409.5
::	Z05351 TP-OFF DT HTR PWR 1	206.4 WATT	-409.5	409.5		Z05351 TP-OFF DUCT 1 AVG	101.3 DEGF	-409.5	409
	Z05352 TP-OFF DT HTR PWR 2	233.5 WATT	-409.5	409.5		Z05352 TP-OFF DUCT 2 AVG	88.7 DEGF	-409.5	409.5
	Z05353 TP-OFF DT HTR PWR 3	40.0 WATT	-409.5	409.5		Z05353 TP-OFF DUCT 3 AVG	90.2 DEGF	-409.5	409.5
	Z05354 TP-OFF DT HTR PWR 4	81.4 WATT	-409.5	409.5		Z05354 TP-OFF DUCT 4 AVG	93.3 DEGF	-409.5	409.5
	Z05381 R-ETY DT HTR PWR 1	10.5 WATT	-409.5	409.5		Z05355 R-ETHY DUCT 1 AVG	48.3 DEGF	-409.5	409.5
	Z05382 R-ETY DT HTR PWR 2	12.6 WATT	-409.5	409.5		Z05356 R-ETHY DUCT 2 AVG	72.0 DEGF	-409.5	409.5
	Z05383 R-ETY DT HTR PWR 3	10.2 WATT	-409.5	409.5		Z05359 R-ETHY DUCT 3 AVG	52.9 DEGF	-409.5	409.5
	ZN5341 S S NOZ HTR PWR	8.3 WATT	-409.5	409.5		ZN5357 SS NOZZLE 1 AVG	109.1 DEGF	-409.5	409.5
	ZN5342 S S NOZ HTR PWR	8.3 WATT	-409.5	409.5		ZN5358 SS NOZZLE 2 AVG	78.9 DEGF	-409.5	409.5
::	TM5403 MSFC ASPS TEMP 1	83.5 DEGF	-409.5	409.5		TM5404 MSFC ASPS TEMP 2	79.3 DEGF	-409.5	409
#	TF5501 P FLO CONT VLV IN	LLL DEGF	-409.5	409.5	#	TF5506 S FLO CONT VLV IN	LLL DEGF	-409.5	409.5
#	TF5529 P CON OUT MIX CH	UUU DEGF	-409.5	409.5	#	TF5530 S CON OUT MIX CH	UUU DEGF	-409.5	409.5
#	TF5529 P CON OUT MIX CH	UUU DEGF	-409.5	409.5	#	TF5531 S CON OUT MIX CH	UUU DEGF	-409.5	409.5
::	FM5643 HI FL TO PRI VALV	2764 PPH	- 4095	4095		FM5649 HI FLOW TO SEC PNL	2746 PPH	- 4095	40

-MID-	---DESCRIPTION----	---VALUE---	----LIMITS----		-MID-	---DESCRIPTION----	---VALUE---	----LIMITS----	
;;	TF5001 F-21 IN TO EVAP 1	65.8 DEGF	-409.5	409.5		TF5007 F-21 IN TO EVAP	66.8 DEGF	-409.5	409
	TF5002 F-21 IN TO EVAP 1	64.2 DEGF	-409.5	409.5		TF5008 F-21 IN TO EVAP 2	64.2 DEGF	-409.5	409.5
	TF5003 F-21 OUT OF EVAP 1	42.6 DEGF	-409.5	409.5		TF5009 F-21 OUT OF EVAP 2	45.0 DEGF	-409.5	409.5
	TF5004 F-21 OUT OF EVAP 1	42.6 DEGF	-409.5	409.5		TF5010 F-21 OUT OF EVAP 2	45.4 DEGF	-409.5	409.5
	TW5005 H2O IN TO EVAP 1	121.1 DEGF	-409.5	409.5		TW5011 H2O IN TO EVAP 2	122.4 DEGF	-409.5	409.5
	TW5006 H2O IN TO EVAP 1	121.1 DEGF	-409.5	409.5		TW5012 H2O IN TO EVAP 2	122.3 DEGF	-409.5	409.5
;;	TW5011 H2O IN TO EVAP 2	122.6 DEGF	-409.5	409.5		TD5017 EVAP EXH TOPOFF DT	96.1 DEGF	30.0	240
	TW5012 H2O IN TO EVAP 2	122.3 DEGF	-409.5	409.5		TD5018 EVAP EXH TOPOFF DT	44.7 DEGF	30.0	240.0
	TD5013 EVAP EXH TOPOFF DT	41.1 DEGF	30.0	240.0		TD5019 EVAP EXH TOPOFF DT	113.8 DEGF	30.0	240.0
	TD5014 EVAP EXH TOPOFF DT	54.1 DEGF	30.0	240.0		TD5020 EVAP EXH TOPOFF DT	101.8 DEGF	30.0	240.0
	TD5015 EVAP EXH TOPOFF DT	115.1 DEGF	30.0	240.0		TD5021 EVAP EXH TOPOFF DT	93.8 DEGF	30.0	240.0
	TD5016 EVAP EXH TOPOFF DT	89.7 DEGF	30.0	240.0		TD5022 EVAP EXH TOPOFF DT	88.6 DEGF	30.0	240.0
;;	TD5023 EVAP RE-ENTRY DUCT	92.4 DEGF	30.0	240.0		TD5028 EVAP RE-ENTRY DUCT	44.9 DEGF	30.0	240
	TD5024 EVAP RE-ENTRY DUCT	103.1 DEGF	30.0	240.0		TD5029 EVAP RE-ENTRY DUCT	44.0 DEGF	30.0	240.0
	TD5025 EVAP RE-ENTRY DUCT	78.9 DEGF	30.0	240.0		TD5030 EVAP RE-ENTRY DUCT	52.6 DEGF	30.0	240.0
	TD5026 EVAP RE-ENTRY DUCT	69.2 DEGF	30.0	240.0		TD5031 EVAP RE-ENTRY DUCT	69.2 DEGF	30.0	240.0
	TD5027 EVAP RE-ENTRY DUCT	49.7 DEGF	30.0	240.0					
;;	TD5032 EVAP EXH RE-ENTRY	73.4 DEGF	30.0	240.0		TD5036 EVAP EXH RE-ENTRY	78.9 DEGF	30.0	240
	TD5033 EVAP EXH RE-ENTRY	65.1 DEGF	30.0	240.0		TD5037 EVAP EXH RE-ENTRY	117.7 DEGF	30.0	240.0
	TD5034 EVAP EXH RE-ENTRY	51.2 DEGF	30.0	240.0		TD5038 EVAP EXH RE-ENTRY	130.6 DEGF	30.0	240.0
	TD5035 EVAP EXH RE-ENTRY	44.0 DEGF	30.0	240.0		TD5039 EVAP EXH RE-ENTRY	126.7 DEGF	30.0	240.0
;;						PN5051 H2O TK GN2 PRESS	20.1 PSI	-409.5	409
	PF5052 F-21 DIF PRSS EV 1	10.4 PSID	-409.5	409.5		PF5053 F-21 DIF PRSS EV 2	10.7 PSID	-409.5	409.5
	PW5054 H2O SUP PRSS TO EV	25.5 PSIA	-409.5	409.5		PW5055 H2O SUP PRSS TO EV	17.8 PSIA	-409.5	409.5
	PE5056 EVAP 1 CHMBR PRSS	3.03 TORR	-40.95	40.95		PE5057 EVAP 2 CHMBR PRSS	1.98 TORR	-40.95	40.95
;;	PD5058 EXHT DUCT PRSS DP	0.10 TORR	-40.95	40.95		PD5065 EXHT DUCT PRSS DP	0.29 TORR	-40.95	40.
	PD5059 EXHT DUCT PRSS DP	0.16 TORR	-40.95	40.95		PD5066 EXHT DUCT PRSS DP	LLL TORR	-40.95	40.95
	PD5060 EXHT DUCT PRSS DP	0.30 TORR	-40.95	40.95		PD5067 EXHT DUCT PRSS DP	0.51 TORR	-40.95	40.95
	PD5061 EXHT DUCT PRSS	1.23 TORR	-40.95	40.95		PD5068 EXHT DUCT PRSS DP	0.43 TORR	-40.95	40.95
	PD5062 EXHT DUCT PRSS	1.51 TORR	-40.95	40.95		PD5069 EXHT DUCT PRSS DP	0.59 TORR	-40.95	40.95
	PD5063 EXHT DUCT PRSS	1.55 TORR	-40.95	40.95		PD5070 EXHT DUCT PRSS DP	0.03 TORR	-40.95	40.95
	PD5064 EXHT DUCT PRSS	0.060 TORR	-4.095	4.095		PD5071 EXHT DUCT PRSS DP	0.036 TORR	-4.095	4.095
;;						FW5081 TOT H2O FLO TO EVP	28.3 PPH	-409.5	409
	FW5082 H2O FLO TO FL EVAP	14.8 PPH	-409.5	409.5		FW5083 H2O FLO TO FL EVAP	14.2 PPH	-409.5	409.5
						WT5091 H2O TANK WEIGHT	35.6 LBS	-409.5	409.5
;;	HI5170 TOP OFF DUCT HTR 1	2.23 AMPS	-40.95	40.95		HI5172 TOP OFF DUCT HTR 3	1.59 AMPS	-40.95	40.
	HI5171 TOP OFF DUCT HTR 2	2.76 AMPS	-40.95	40.95		HI5173 TOP OFF DUCT HTR 4	2.26 AMPS	-40.95	40.95
;;	HI5174 R-ETY DT HTR PWR 1	0.66 AMPS	-40.95	40.95		HI5178 R-ETY DT HTR PWR 3	0.66 AMPS	-40.95	40.
	HI5175 R-ETY DT HTR PWR 2	0.92 AMPS	-40.95	40.95					
;;	HI5176 S S NOZZLE HTR	0.18 AMPS	-40.95	40.95		HI5177 S S NOZZLE HTR	0.18 AMPS	-40.95	40.
;;	FM5643 HI FL TO PRI VALV	2251 PPH	-4095	4095		FM5649 HI FLOW TO SEC PNL	2264 PPH	-4095	40
						FM5660 F21 TOTAL FLOW	4.51 KPPH	-40.95	40.95

TP #9

PAGE 07 [illegible] CHAMBER A [illegible] 113: 14 HRS: 10 MIN: 00 SEC

	-MID-	-DESCRIPTION-	-VALUE-	-LIMITS-		-MID-	-DESCRIPTION-	-VALUE-	-LIMITS-	
::	ZD5201	INST HT ADCT EV 1	12.1 KBTU	-409.5 409.5		ZD5202	INST HT ADCT EV 2	11.7 KBTU	-409.5 409	
						ZD5203	INSTANT HEAT ADCT	23.8 KBTU	-409.5 409.5	
::	ZD5211	TOT HT ADCT EVP 1	5.9 KBTU	-409.5 409.5		ZD5212	TOT HT ADCT EVP 2	5.0 KBTU	-409.5 409	
						ZD5213	TOT HT ADCT	11.0 KBTU	-409.5 409.5	
::	ZW5221	TOT WATR FLW EV 1	7.5 LBS	-409.5 409.5		ZW5222	TOT WATR FLW EV 2	7.0 LBS	-409.5 409	
						ZW5223	TOT WATR FLW	14.6 LBS	-409.5 409.5	
						ZW5224	WATR TNK DIFF WT	13.6 LBS	-409.5 409.5	
*	ZE5231	SIG EVE TOT EVP 1	3.00 HRS	-40.95 40.95	*	ZE5232	SIG EVE TOT EVP 2	3.00 HRS	-40.95 40.95	
					*	ZE5234	TOTAL TEST TIME	3.00 HRS	-40.95 40.95	
::	ZD5241	AVG HT LOAD EVP 1A	11.6 KBTU	-409.5 409.5		ZD5242	AVG HT LOAD EVP 2A	12.1 KBTU	-409.5 409	
						ZD5243	AVG HT LOAD A	23.9 KBTU	-409.5 409.5	
::	ZD5251	AVG HT LOAD EVP 1B	15.0 KBTU	-409.5 409.5		ZD5252	AVG HT LOAD EVP 2B	15.0 KBTU	-409.5 409	
						ZD5253	AVG HT LOAD B	30.0 KBTU	-409.5 409.5	
::	ZF5261	AVG WATR USE EV 1	15.0 LBSH	-409.5 409.5		ZF5262	AVG WATR USE EV 2	14.1 LBSH	-409.5 409	
						ZF5263	AVG WATR USE A	29.1 LBSH	-409.5 409.5	
						ZF5264	AVG WATR USE B	27.9 LBSH	-409.5 409.5	
::	ZH5271	AVG ENT CHNG EV 1	786 BTUP	- 4095 4095		ZH5272	AVG ENT CHNG EV 2	858 BTUP	- 4095 40	
						ZH5273	AVG ENTP CHNG A	821 BTUP	- 4095 4095	
						ZH5281	AVG ENTP CHNG B	879 BTUP	- 4095 4095	
::	ZT5301	MIN F-21 DUT TEM 1	41.9 DEGF	-409.5 409.5		ZT5302	MIN F-21 DUT TEM 2	43.7 DEGF	-409.5 409	
#	ZT5311	MAX F-21 DUT TEM 1	RRR DEGF	-409.5 409.5	#	ZT5312	MAX F-21 DUT TEM 2	RRR DEG	-409.5 409.5	
::	ZD5321	TP-OFF DT HTR PWR 1	204.2 WATT	-409.5 409.5		ZD5351	TP-OFF DUCT 1 AVG	104.1 DEGF	-409.5 409	
	ZD5322	TP-OF DT HTR PWR 2	233.6 WATT	-409.5 409.5		ZD5352	TP-OFF DUCT 2 AVG	91.9 DEGF	-409.5 409.5	
	ZD5323	TP-OF DT HTR PWR 3	40.0 WATT	-409.5 409.5		ZD5353	TP-OFF DUCT 3 AVG	90.4 DEGF	-409.5 409.5	
	ZD5324	TP-OF DT HTR PWR 4	62.0 WATT	-409.5 409.5		ZD5354	TP-OFF DUCT 4 AVG	99.1 DEGF	-409.5 409.5	
	ZD5331	R-ETRY DT HTR PWR 1	10.5 WATT	-409.5 409.5		ZD5355	R-ETRY DUCT 1 AVG	48.3 DEGF	-409.5 409.5	
	ZD5332	R-ETY DT HTR PWR 2	13.1 WATT	-409.5 409.5		ZD5356	R-ETRY DUCT 2 AVG	73.8 DEGF	-409.5 409.5	
	ZD5333	R-ETY DT HTR PWR 3	10.2 WATT	-409.5 409.5		ZD5359	R-ETRY DUCT 3 AVG	53.4 DEGF	-409.5 409.5	
	ZN5341	S S NOZ HTR PWR	8.3 WATT	-409.5 409.5		ZN5357	SS NOZZLE 1 AVG	97.8 DEGF	-409.5 409.5	
	ZN5342	S S NOZ HTR PWR	8.3 WATT	-409.5 409.5		ZN5358	SS NOZZLE 2 AVG	74.1 DEGF	-409.5 409.5	
::	ZM5403	MSFC ASPS TEMP 1	82.1 DEGF	-409.5 409.5		TM5404	MSFC ASPS TEMP 2	79.3 DEGF	-409.5 409	
#	TF5501	P FLO CONT VLV IN	LLL DEGF	-409.5 409.5		TF5506	S FLO CONT VLV IN	132.3 DEGF	-409.5 409.5	
#	TF5528	P CON OUT MIX CH	UUU DEGF	-409.5 409.5	#	TF5530	S CON OUT MIX CH	UUU DEGF	-409.5 409.5	
#	TF5529	P CON OUT MIX CH	UUU DEGF	-409.5 409.5	#	TF5531	S CON OUT MIX CH	UUU DEGF	-409.5 409.5	
::	FM5643	HI FL TO PRI VALV	2251 PPH	- 4095 4095		FM5649	HI FLOW TO SEC PNL	2264 PPH	- 4095 40	

C-19

-MID-	---DESCRIPTION----	---VALUE---	----LIMITS----		-MID-	---DESCRIPTION----	---VALUE---	----LIMITS----	
::	TE5001 F-21 IN TO EVAP 1	54.4 DEGF	-409.5	409.5		TE5007 F-21 IN TO EVAP 2	54.4 DEGF	-409.5	409
	TE5002 F-21 IN TO EVAP 1	53.2 DEGF	-409.5	409.5		TE5008 F-21 IN TO EVAP 2	55.2 DEGF	-409.5	409.5
	TE5003 F-21 OUT OF EVAP 1	40.9 DEGF	-409.5	409.5		TE5009 F-21 OUT OF EVAP 2	40.6 DEGF	-409.5	409.5
	TE5004 F-21 OUT OF EVAP 1	41.2 DEGF	-409.5	409.5		TE5010 F-21 OUT OF EVAP 2	40.5 DEGF	-409.5	409.5
	TW5005 H2O IN TO EVAP 1	123.0 DEGF	-409.5	409.5		TW5011 H2O IN TO EVAP 2	124.5 DEGF	-409.5	409.5
	TW5006 H2O IN TO EVAP 1	123.4 DEGF	-409.5	409.5		TW5012 H2O IN TO EVAP 2	124.1 DEGF	-409.5	409.5
::	TW5011 H2O IN TO EVAP 2	124.5 DEGF	-409.5	409.5		TD5017 EVAP EXH TOPOFF DT	130.6 DEGF	30.0	240
	TW5012 H2O IN TO EVAP 2	124.1 DEGF	-409.5	409.5		TD5018 EVAP EXH TOPOFF DT	45.0 DEGF	30.0	240.0
	TD5013 EVAP EXH TOPOFF DT	65.1 DEGF	30.0	240.0		TD5019 EVAP EXH TOPOFF DT	131.0 DEGF	30.0	240.0
	TD5014 EVAP EXH TOPOFF DT	84.4 DEGF	30.0	240.0		TD5020 EVAP EXH TOPOFF DT	92.4 DEGF	30.0	240.0
	TD5015 EVAP EXH TOPOFF DT	151.0 DEGF	30.0	240.0		TD5021 EVAP EXH TOPOFF DT	100.4 DEGF	30.0	240.0
	TD5016 EVAP EXH TOPOFF DT	128.4 DEGF	30.0	240.0		TD5022 EVAP EXH TOPOFF DT	99.1 DEGF	30.0	240.0
	TD5023 EVAP RE-ENTRY DUCT	85.7 DEGF	30.0	240.0		TD5028 EVAP RE-ENTRY DUCT	48.3 DEGF	30.0	240.0
	TD5024 EVAP RE-ENTRY DUCT	96.4 DEGF	30.0	240.0		TD5029 EVAP RE-ENTRY DUCT	45.4 DEGF	30.0	240.0
	TD5025 EVAP RE-ENTRY DUCT	78.9 DEGF	30.0	240.0		TD5030 EVAP RE-ENTRY DUCT	52.6 DEGF	30.0	240.0
	TD5026 EVAP RE-ENTRY DUCT	67.8 DEGF	30.0	240.0		TD5031 EVAP RE-ENTRY DUCT	9.2 DEGF	30.0	240.0
	TD5027 EVAP RE-ENTRY DUCT	49.7 DEGF	30.0	240.0					
::	TD5032 EVAP EXH RE-ENTRY	73.4 DEGF	30.0	240.0		TD5033 EVAP EXH RE-ENTRY	80.3 DEGF	30.0	240
	TD5033 EVAP EXH RE-ENTRY	65.1 DEGF	30.0	240.0		TD5037 EVAP EXH RE-ENTRY	144.8 DEGF	30.0	240.0
	TD5034 EVAP EXH RE-ENTRY	49.7 DEGF	30.0	240.0		TD5038 EVAP EXH RE-ENTRY	162.2 DEGF	30.0	240.0
	TD5035 EVAP EXH RE-ENTRY	45.4 DEGF	30.0	240.0		TD5039 EVAP EXH RE-ENTRY	161.0 DEGF	30.0	240.0
::						PN5051 H2O TK GN2 PRESS	24.5 PSI	-409.5	409
	PE5052 F-21 DIF PRSS FV 1	10.4 PSID	-409.5	409.5		PE5053 F-21 DIF PRSS FV 2	10.8 PSID	-409.5	409.5
	PW5054 H2O SUP PRSS TO EV	26.7 PSIA	-409.5	409.5		PW5055 H2O SUP PRSS TO EV	20.4 PSIA	-409.5	409.5
	PE5056 EVAP 1 CHMBR PRSS	1.86 TORR	-40.95	40.95		PE5057 EVAP 2 CHMBR PRSS	1.56 TORR	-40.95	40.95
::	PD5058 EXHT DUCT PRSS DP	0.16 TORR	-40.95	40.95		PD5065 EXHT DUCT PRSS DP	0.56 TORR	-40.95	40.
	PD5059 EXHT DUCT PRSS DP	0.38 TORR	-40.95	40.95	#	PD5066 EXHT DUCT PRSS DP	LLL TORR	-40.95	40.95
	PD5060 EXHT DUCT PRSS DP	0.17 TORR	-40.95	40.95		PD5067 EXHT DUCT PRSS DP	0.41 TORR	-40.95	40.95
	PD5061 EXHT DUCT PRSS	0.84 TORR	-40.95	40.95		PD5068 EXHT DUCT PRSS DP	0.37 TORR	-40.95	40.95
	PD5062 EXHT DUCT PRSS	0.84 TORR	-40.95	40.95		PD5069 EXHT DUCT PRSS DP	0.20 TORR	-40.95	40.95
	PD5063 EXHT DUCT PRSS	0.92 TORR	-40.95	40.95		PD5070 EXHT DUCT PRSS DP	0.03 TORR	-40.95	40.95
	PD5064 EXHT DUCT PRSS	0.038 TORR	-4.095	4.095		PD5071 EXHT DUCT PRSS DP	0.018 TORR	-4.095	4.095
::						FW5081 TOT H2O FLO TO EVP	16.3 PPH	-409.5	409
	FW5082 H2O FLO TO FL EVAP	12.0 PPH	-409.5	409.5		FW5083 H2O FLO TO FL EVAP	0.0 PPH	-409.5	409.5
						WT5091 H2O TANK WT GMT	14.8 LBS	-409.5	409.5
::	HI5170 TOP OFF DUCT HTR 1	2.25 AMPS	-40.95	40.95		HI5172 TOP OFF DUCT HTR 3	1.57 AMPS	-40.95	40.
	HI5171 TOP OFF DUCT HTR 2	2.76 AMPS	-40.95	40.95		HI5173 TOP OFF DUCT HTR 4	2.28 AMPS	-40.95	40.95
::	HI5174 R-ETY DT HTR PWR 1	0.86 AMPS	-40.95	40.95		HI5178 R-ETY DT HTR PWR 3	0.66 AMPS	-40.95	40.
	HI5175 R-ETY DT HTR PWR 2	0.92 AMPS	-40.95	40.95					
::	HI5176 S S NOZZLE HTR	0.18 AMPS	-40.95	40.95		HI5177 S S NOZZLE HTR	0.18 AMPS	-40.95	40.
::	FM5643 HI FL TO PRI VALV	2251 PPH	- 4095	4095		FM5649 HI FLOW TO SEC PNL	2264 PPH	- 4095	40
						FM5660 F21 TOTAL FLOW	4.54 KPPH	-40.95	40.95

-MID-	---DESCRIPTION----	---VALUE---	----LIMITS----	-MID-	---DESCRIPTION----	---VALUE---	----LIMITS----
!!* ZD5105	INST HT RJCT EV 1	NO KBTU		ZD5202	INST HT RJCT EV 2	0.4 KBTU	-409.5 409
				ZW5203	INSTANT HEAT RJCT	14.[illegible] KBTU	-409.5 409.5
!! ZD5211	TOT HT RJCT EVP 1	0.7 KBTU	-409.5 409.5	ZD5212	TOT HT RJCT EVP 2	7.7 KBTU	-409.5 409
				ZW5213	TOT HT RJCT	14.4 KBTU	-409.5 409.5
ZW5221	TOT WATR FLW EV 1	11.0 LBS	-409.5 409.5	ZW5222	TOT WATR FLW EV 2	9.0 LBS	-409.5 409.5
				ZW5223	TOT WATR FLW	20.4 LBS	-409.5 409.5
				ZW5224	WATR TNK DIFF WT.	16.4 LBS	-409.5 409.5
!!* ZE5231	SIG EVE TOT EVP 1	3.67 HRS	-40.95 40.95	* ZE5232	SIG EVE TOT EVP 2	[illegible] HRS	-40.95 40.
				* ZE5234	TOTAL TEST TIME	5.74 HRS	-40.95 40.95
!! ZD5241	AVG HT LOAD EVP 1A	7.0 KBTU	-409.5 409.5	ZD5242	AVG HT LOAD EVP 2A	8.1 KBTU	-409.5 409
				ZD5243	AVG HT LOAD A	15.1 KBTU	-409.5 409.5
!! ZD5251	AVG HT LOAD EVP 1B	9.5 KBTU	-409.5 409.5	ZD5252	AVG HT LOAD EVP 2B	8.4 KBTU	-409.5 409
				ZD5253	AVG HT LOAD B	19.1 KBTU	-409.5 409.5
!! ZF5261	AVG WATR USE EV 1	12.1 LBSH	-409.5 409.5	ZF5262	AVG WATR USE EV 2	9.4 LBSH	-409.5 409
				ZF5263	AVG WATR USE A	21.5 LBSH	-409.5 409.5
				ZF5264	AVG WATR USE B	17.4 LBSH	-409.5 409.5
!! ZH5271	AVG ENT CHNG EV 1	577 BTUP	- 4095 4095	ZH5272	AVG ENT CHNG EV 2	857 BTUP	- 4095 40
				ZH5273	AVG ENTP CHNG A	706 BTUP	- 4095 4095
				ZH5281	AVG ENTP CHNG B	869 BTUP	- 4095 4095
!! ZT5301	MIN F-21 OUT TEM 1	38.8 DEGF	-409.5 409.5	ZT5302	MIN F-21 OUT TEM 2	34.4 DEGF	-409.5 409
# ZT5311	MAX F-21 OUT TEM 1	RRR DEGF	-409.5 409.5	# ZT5312	MAX F-21 OUT TEM 2	RRR DEGF	-409.5 409.5
!! ZD5321	TP-OF DT HTR PWR 1	208.7 WATT	-409.5 409.5	ZD5351	TP-OFF DUCT 1 AVG	136.9 DEGF	-409.5 409
ZD5322	TP-OF DT HTR PWR 2	235.5 WATT	-409.5 409.5	ZD5352	TP-OFF DUCT 2 AVG	120.3 DEGF	-409.5 409.5
ZD5323	TP-OF DT HTR PWR 3	41.4 WATT	-409.5 409.5	ZD5353	TP-OFF DUCT 3 AVG	108.9 DEGF	-409.5 409.5
ZD5324	TP-OF DT HTR PWR 4	66.8 WATT	-409.5 409.5	ZD5354	TP-OFF DUCT 4 AVG	129.3 DEGF	-409.5 409.5
ZD5331	R-ETY DT HTR PWR 1	10.1 WATT	-409.5 409.5	ZD5355	R-ETRY DUCT 1 AVG	49.0 DEGF	-409.5 409.5
ZD5332	R-ETY DT HTR PWR 2	13.1 WATT	-409.5 409.5	ZD5356	R-ETRY DUCT 2 AVG	74.3 DEGF	-409.5 409.5
ZD5333	R-ETY DT HTR PWR 3	10.0 WATT	-409.5 409.5	ZD5359	R-ETRY DUCT 3 AVG	53.4 DEGF	-409.5 409.5
ZW5361	S S NOZ HTR PWR	8.3 WATT	-409.5 409.5	ZW5357	SS NOZZLE 1 AVG	91.1 DEGF	-409.5 409.5
ZW5362	S S NOZ HTR PWR	8.3 WATT	-409.5 409.5	ZW5358	SS NOZZLE 2 AVG	73.4 DEGF	-409.5 409.5
!! TM5403	MSFC ASPS TEMP 1	83.5 DEGF	-409.5 409.5	TM5404	MSFC ASPS TEMP 2	79.3 DEGF	-409.5 409
# TF5501	P FLO CONT VLV IN	LLL DEGF	-409.5 409.5	TF5506	S FLO CONT VLV IN	38.2 DEGF	-409.5 409.5
# TF5534	P CON OUT MIX CH	UUU DEGF	-409.5 409.5	# TF5530	S CON OUT MIX CH	UUU DEGF	-409.5 409.5
# TF5529	P CON OUT MIX CH	UUU DEGF	-409.5 409.5	# TF5531	S CON OUT MIX CH	UUU DEGF	-409.5 409.5
!! FM5443	HI FL TO PRI VALV	2251 PPH	- 4095 4095	FM5649	HI FLOW TO SEC PML	2964 PPH	- 4095 40

-MID-	---DESCRIPTION----	---VALUE---	----LIMITS----	-MID-	---DESCRIPTION----	---VALUE---	----LIMITS----
** TF5001	F-21 IN TO EVAP 1	54.4 DEGF	-409.5 409.5	TF5007	F-21 IN TO EVAP 2	54.4 DEGF	-409.5 409
TF5002	F-21 IN TO EVAP 1	52.8 DEGF	-409.5 409.5	TF5008	F-21 IN TO EVAP 2	54.8 DEGF	-409.5 409.5
TF5003	F-21 OUT OF EVAP 1	40.9 DEGF	-409.5 409.5	TF5009	F-21 OUT OF EVAP 2	40.2 DEGF	-409.5 409.5
TF5004	F-21 OUT OF EVAP 1	41.2 DEGF	-409.5 409.5	TF5010	F-21 OUT OF EVAP 2	40.2 DEGF	-409.5 409.5
TW5005	H2O IN TO EVAP 1	121.5 DEGF	-409.5 409.5	TW5011	H2O IN TO EVAP 2	123.0 DEGF	-409.5 409.5
TW5006	H2O IN TO EVAP 1	121.5 DEGF	-409.5 409.5	TW5012	H2O IN TO EVAP 2	123.0 DEGF	-409.5 409.5
** TW5011	H2O IN TO EVAP 2	123.0 DEGF	-409.5 409.5	TD5017	EVAP EXH TOPOFF DT	144.0 DEGF	30.0 240
TW5012	H2O IN TO EVAP 2	123.0 DEGF	-409.5 409.5	TD5018	EVAP EXH TOPOFF DT	46.9 DEGF	30.0 240.0
TD5013	EVAP EXH TOPOFF DT	49.7 DEGF	30.0 240.0	TD5019	EVAP EXH TOPOFF DT	146.0 DEGF	30.0 240.0
TD5014	EVAP EXH TOPOFF DT	65.1 DEGF	30.0 240.0	TD5020	EVAP EXH TOPOFF DT	91.1 DEGF	30.0 240.0
TD5015	EVAP EXH TOPOFF DT	156.5 DEGF	30.0 240.0	TD5021	EVAP EXH TOPOFF DT	112.8 DEGF	30.0 240.0
TD5016	EVAP EXH TOPOFF DT	133.2 DEGF	30.0 240.0	TD5022	EVAP EXH TOPOFF DT	108.8 DEGF	30.0 240.0
** TD5023	EVAP RE-ENTRY DUCT	85.7 DEGF	30.0 240.0	TD5028	EVAP RE-ENTRY DUCT	48.3 DEGF	30.0 240
TD5024	EVAP RE-ENTRY DUCT	95.1 DEGF	30.0 240.0	TD5029	EVAP RE-ENTRY DUCT	45.4 DEGF	30.0 240.0
TD5025	EVAP RE-ENTRY DUCT	81.7 DEGF	30.0 240.0	TD5030	EVAP RE-ENTRY DUCT	54.0 DEGF	30.0 240.0
TD5026	EVAP RE-ENTRY DUCT	69.2 DEGF	30.0 240.0	TD5031	EVAP RE-ENTRY DUCT	70.4 DEGF	30.0 240.0
TD5027	EVAP RE-ENTRY DUCT	51.2 DEGF	30.0 240.0				
TD5032	EVAP EXH RE-ENTRY	74.8 DEGF	30.0 240.0	TD5036	EVAP EXH RE-ENTRY	80.3 DEGF	30.0 240.0
TD5033	EVAP EXH RE-ENTRY	66.5 DEGF	30.0 240.0	TD5037	EVAP EXH RE-ENTRY	143.5 DEGF	30.0 240.0
TD5034	EVAP EXH RE-ENTRY	51.2 DEGF	30.0 240.0	TD5038	EVAP EXH RE-ENTRY	167.2 DEGF	30.0 240.0
TD5035	EVAP EXH RE-ENTRY	45.4 DEGF	30.0 240.0	TD5039	EVAP EXH RE-ENTRY	169.7 DEGF	30.0 240.0
**				PN5051	H2O TK GN2 PRESS	28.5 PSI	-409.5 409
PF5052	F-21 DIF PRSS EV 1	15.2 PSID	-409.5 409.5	PF5053	F-21 DIF PRSS EV 2	16.0 PSID	-409.5 409.5
PW5054	H2O SUP PRSS TO EV	26.3 PSIA	-409.5 409.5	PW5055	H2O SUP PRSS TO EV	22.7 PSIA	-409.5 409.5
PE5056	EVAP 1 CHMBR PRSS	2.45 TORR	-40.95 40.95	PE5057	EVAP 2 CHMBR PRSS	1.49 TORR	-40.95 40.95
** PD5058	EXHT DUCT PRSS DP	0.29 TORR	-40.95 40.95	PD5065	EXHT DUCT PRSS DP	0.54 TORR	-40.95 40.
PD5059	EXHT DUCT PRSS DP	0.26 TORR	-40.95 40.95	PD5066	EXHT DUCT PRSS DP	LLL TORR	-40.95 40.95
PD5060	EXHT DUCT PRSS DP	0.39 TORR	-40.95 40.95	PD5067	EXHT DUCT PRSS DP	0.52 TORR	-40.95 40.95
PD5061	EXHT DUCT PRSS	1.04 TORR	-40.95 40.95	PD5068	EXHT DUCT PRSS DP	0.41 TORR	-40.95 40.95
PD5062	EXHT DUCT PRSS	1.04 TORR	-40.95 40.95	PD5069	EXHT DUCT PRSS DP	0.58 TORR	-40.95 40.95
PD5063	EXHT DUCT PRSS	1.08 TORR	-40.95 40.95	PD5070	EXHT DUCT PRSS DP	0.01 TORR	-40.95 40.95
PD5064	EXHT DUCT PRSS	0.045 TORR	-4.095 4.095	PD5071	EXHT DUCT PRSS DP	0.028 TORR	-4.095 4.095
**				FW5081	TOT H2O FLO TO EVP	28.4 PPH	-409.5 409
FW5082	H2O FLO TO FL EVAP	12.9 PPH	-409.5 409.5	FW5083	H2O FLO TO FL EVAP	14.8 PPH	-409.5 409.5
				WT5091	H2O TANK WEIGHT	123.3 LBS	-409.5 409.5
** HI5170	TOP OFF DUCT HTR 1	2.25 AMPS	-40.95 40.95	HI5172	TOP OFF DUCT HTR 3	1.59 AMPS	-40.95 40.
HI5171	TOP OFF DUCT HTR 2	2.76 AMPS	-40.95 40.95	HI5173	TOP OFF DUCT HTR 4	2.24 AMPS	-40.95 40.95
** HI5174	R-ETY DT HTR PWR 1	0.86 AMPS	-40.95 40.95	HI5178	R-ETY DT HTR PWR 3	0.66 AMPS	-40.95 40.
HI5175	R-ETY DT HTR PWR 2	0.92 AMPS	-40.95 40.95				
HI5176	S S NOZZLE HTR	0.18 AMPS	-40.95 40.95	HI5177	S S NOZZLE HTR	0.18 AMPS	-40.95 40.95
** FM5643	HI FL TO PRI VALV	2751 PPH	- 4095 4095	FM5649	HI FLOW TO SEC PNL	2759 PPH	- 4095 40
				FM5660	F21 TOTAL FLOW	5.51 KPPH	-40.95 40.95

-MID-	---DESCRIPTION----	---VALUE---	----LIMITS----		-MID-	---DESCRIPTION----	---VALUE---	----LIMITS----	
‡‡	Z05231 INST HT REJCT EV 1	8.4 KBTU	-409.5	409.5		Z05232 INST HT REJCT EV 2	9.8 KBTU	-409.5	409
						Z05233 INSTANT HEAT REJCT	18.1 KBTU	-409.5	409.5
‡‡	Z05211 TOT HT REJCT EVP 1	4.9 KBTU	-409.5	409.5		Z05212 TOT HT REJCT EVP 2	5.4 KBTU	-409.5	409
						Z05213 TOT HT REJCT	10.3 KBTU	-409.5	409.5
	Z05221 TOT WATR FLW EV 1	7.8 LBS	-409.5	409.5		Z05222 TOT WATR FLW EV 2	6.7 LBS	-409.5	409.5
						Z05223 TOT WATR FLW	14.5 LBS	-409.5	409.5
						Z05224 WATR INR DIFF WT.	13.1 LBS	-409.5	409.5
‡‡‡	ZF5231 SIG EVE TOT EVP 1	2.48 HRS	-40.95	40.95	*	ZF5232 SIG EVE TOT EVP 2	2.44 HRS	-40.95	40.
					*	ZE5234 TOTAL TEST TIME	3.50 HRS	-40.95	40.95
‡‡	Z05241 AVG HT LOAD EVP 1A	8.3 KBTU	-409.5	409.5		Z05242 AVG HT LOAD EVP 2A	9.3 KBTU	-409.5	409
						Z05243 AVG HT LOAD A	17.7 KBTU	-409.5	409.5
‡‡	Z05251 AVG HT LOAD EVP 1B	10.8 KBTU	-409.5	409.5		Z05252 AVG HT LOAD EVP 2B	10.6 KBTU	-409.5	409
						Z05253 AVG HT LOAD B	21.4 KBTU	-409.5	409.5
‡‡	ZF5261 AVG WATR USE EV 1	13.4 LBSH	-409.5	409.5		ZF5262 AVG WATR USE EV 2	1?.5 LBSH	-409.5	409
						ZF5263 AVG WATR USE A	26.9 LBSH	-409.5	409.5
						ZF5264 AVG WATR USE B	22.5 LBSH	-409.5	409.5
‡‡	ZH5271 AVG ENT CHNG EV 1	622 BTUP	- 4095	4095		ZH5272 AVG ENT CHNG EV 2	810 BTUP	- 4095	40
						ZH5273 AVG ENTP CHNG A	709 BTUP	- 4095	4095
						ZH5281 AVG ENTP CHNG B	787 BTUP	- 4095	4095
‡‡	ZT5301 MIN F-21 OUT TEM 1	40.2 DEGF	-409.5	409.5		ZT5302 MIN F-21 OUT TEM 2	30.8 DEGF	-409.5	409
#	ZT5311 MAX F-21 OUT TEM 1	RHR DEGF	-409.5	409.5	#	ZT5312 MAX F-21 OUT TEM 2	RHR DEGF	-409.5	409.5
‡‡	Z05321 TP-OF DT HTR PWR 1	208.6 WATT	-409.5	409.5		Z05351 TP-OFF DUCT 1 AVG	136.0 DEGF	-409.5	409
	Z05322 TP-OF DT HTR PWR 2	235.3 WATT	-409.5	409.5		Z05352 TP-OFF DUCT 2 AVG	117.2 DEGF	-409.5	409.5
	Z05323 TP-OF DT HTR PWR 3	41.1 WATT	-409.5	409.5		Z05353 TP-OFF DUCT 3 AVG	118.5 DEGF	-409.5	409.5
	Z05324 TP-OF DT HTR PWR 4	68.3 WATT	-409.5	409.5		Z05354 TP-OFF DUCT 4 AVG	141.7 DEGF	-409.5	409.5
	Z05331 R-ETY DT HTR PWR 1	10.1 WATT	-409.5	409.5		Z05355 R-ETRY DUCT 1 AVG	49.7 DEGF	-409.5	409.5
	Z05332 R-ETY DT HTR PWR 2	13.2 WATT	-409.5	409.5		Z05356 R-ETRY DUCT 2 AVG	75.2 DEGF	-409.5	409.5
	Z05333 R-ETY DT HTR PWR 3	10.0 WATT	-409.5	409.5		Z05359 R-ETRY DUCT 3 AVG	54.4 DEGF	-409.5	409.5
	ZN5341 S S NOZ HTR PWR	8.3 WATT	-409.5	409.5		ZN5357 SS NOZZLE 1 AVG	91.1 DEGF	-409.5	409.5
	ZN5342 S S NOZ HTR PWR	8.3 WATT	-409.5	409.5		ZN5358 SS NOZZLE 2 AVG	75.5 DEGF	-409.5	409.5
‡‡	TM5403 MSFC ASPS TEMP 1	83.5 DEGF	-409.5	409.5		TM5404 MSFC ASPS TEMP 2	78.8 DEGF	-409.5	409
#	TF5501 P FLO CONT VLV IN	LLL DEGF	-409.5	409.5		TF5506 S FLO CONT VLV IN	141.4 DEGF	-409.5	409.5
#	TF5528 P CON OUT MIX CH	UUU DEGF	-409.5	409.5	#	TF5530 S CON OUT MIX CH	UUU DEGF	-409.5	409.5
#	TF5529 P CON OUT MIX CH	UUU DEGF	-409.5	409.5	#	TF5531 S CON OUT MIX CH	UUU DEGF	-409.5	409.5
	FM5643 HI FL TO PRI VALV	2751 PPH	- 4095	4095		FM5649 HI FLOW TO SEC PNL	2750 PPH	- 4095	4095

-MID-	---DESCRIPTION----	---VALUE---	----LIMITS----		-MID-	---DESCRIPTION----	---VALUE---	----LIMITS----	
‡‡	TF5001 F-21 IN TO EVAP 1	64.0 DEGF	-409.5	409.5		TF5007 F-21 IN TO EVAP 2	64.4 DEGF	-409.5	409
	TF5002 F-21 IN TO EVAP 1	63.4 DEGF	-409.5	409.5		TF5008 F-21 IN TO EVAP 2	65.0 DEGF	-409.5	409.5
	TF5003 F-21 OUT OF EVAP 1	42.0 DEGF	-409.5	409.5		TF5009 F-21 OUT OF EVAP 2	41.4 DEGF	-409.5	409.5
	TF5004 F-21 OUT OF EVAP 1	42.6 DEGF	-409.5	409.5		TF5010 F-21 OUT OF EVAP 2	41.0 DEGF	-409.5	409.5
	TW5005 H2O IN TO EVAP 1	118.0 DEGF	-409.5	409.5		TW5011 H2O IN TO EVAP 2	119.2 DEGF	-409.5	409.5
	TW5006 H2O IN TO EVAP 1	118.0 DEGF	-409.5	409.5		TW5012 H2O IN TO EVAP 2	119.2 DEGF	-409.5	409.5
‡‡	TW5011 H2O IN TO EVAP 2	119.2 DEGF	-409.5	409.5		TD5017 EVAP EXH TOPOFF DT	128.0 DEGF	30.0	240
	TW5012 H2O IN TO EVAP 2	119.2 DEGF	-409.5	409.5		TD5018 EVAP EXH TOPOFF DT	60.9 DEGF	30.0	240.0
	TD5013 EVAP EXH TOPOFF DT	42.5 DEGF	30.0	240.0		TD5019 EVAP EXH TOPOFF DT	135.8 DEGF	30.0	240.0
	TD5014 EVAP EXH TOPOFF DT	55.4 DEGF	30.0	240.0		TD5020 EVAP EXH TOPOFF DT	111.2 DEGF	30.0	240.0
	TD5015 EVAP EXH TOPOFF DT	139.6 DEGF	30.0	240.0		TD5021 EVAP EXH TOPOFF DT	115.1 DEGF	30.0	240.0
	TD5016 EVAP EXH TOPOFF DT	116.4 DEGF	30.0	240.0		TD5022 EVAP EXH TOPOFF DT	105.8 DEGF	30.0	240.0
‡‡	TD5023 EVAP RE-ENTRY DUCT	105.8 DEGF	30.0	240.0		TD5028 EVAP RE-ENTRY DUCT	44.9 DEGF	30.0	240
	TD5024 EVAP RE-ENTRY DUCT	124.1 DEGF	30.0	240.0		TD5029 EVAP RE-ENTRY DUCT	45.4 DEGF	30.0	240.0
	TD5025 EVAP RE-ENTRY DUCT	111.2 DEGF	30.0	240.0		TD5030 EVAP RE-ENTRY DUCT	52.8 DEGF	30.0	240.0
	TD5026 EVAP RE-ENTRY DUCT	101.8 DEGF	30.0	240.0		TD5031 EVAP RE-ENTRY DUCT	67.8 DEGF	30.0	240.0
	TD5027 EVAP RE-ENTRY DUCT	48.3 DEGF	30.0	240.0					
‡‡	TD5032 EVAP EXH RE-ENTRY	72.0 DEGF	30.0	240.0		TD5036 EVAP EXH RE-ENTRY	77.5 DEGF	30.0	240
	TD5033 EVAP EXH RE-ENTRY	63.7 DEGF	30.0	240.0		TD5037 EVAP EXH RE-ENTRY	129.3 DEGF	30.0	240.0
	TD5034 EVAP EXH RE-ENTRY	49.7 DEGF	30.0	240.0		TD5038 EVAP EXH RE-ENTRY	166.0 DEGF	30.0	240.0
	TD5035 EVAP EXH RE-ENTRY	45.4 DEGF	30.0	240.0		TD5039 EVAP EXH RE-ENTRY	154.8 DEGF	30.0	240.0
						PN5051 H2O TK GN2 PRESS	28.5 PSI	-409.5	409.5
	PF5052 F-21 DIF PRSS EV 1	10.4 PSID	-409.5	409.5		PF5053 F-21 DIF PRSS EV 2	10.8 PSID	-409.5	409.5
	PN5054 H2O SUP PRSS TO EV	24.7 PSIA	-409.5	409.5		PN5055 H2O SUP PRSS TO EV	20.2 PSIA	-409.5	409.5
	PE5056 EVAP 1 CHMBR PRSS	3.07 TORR	-40.95	40.95		PE5057 EVAP 2 CHMBR PRSS	1.31 TORR	-40.95	40.95
‡‡	PD5058 EXHT DUCT PRSS DP	0.14 TORR	-40.95	40.95		PD5065 EXHT DUCT PRSS DP	0.31 TORR	-40.95	40.
	PD5059 EXHT DUCT PRSS DP	0.15 TORR	-40.95	40.95	#	PD5066 EXHT DUCT PRSS DP	LLL TORR	-40.95	40.95
	PD5060 EXHT DUCT PRSS DP	0.27 TORR	-40.95	40.95		PD5067 EXHT DUCT PRSS DP	0.53 TORR	-40.95	40.95
	PD5061 EXHT DUCT PRSS	1.27 TORR	-40.95	40.95		PD5068 EXHT DUCT PRSS DP	0.49 TORR	-40.95	40.95
	PD5062 EXHT DUCT PRSS	1.59 TORR	-40.95	40.95		PD5069 EXHT DUCT PRSS DP	0.50 TORR	-40.95	40.95
	PD5063 EXHT DUCT PRSS	1.63 TORR	-40.95	40.95		PD5070 EXHT DUCT PRSS DP	0.03 TORR	-40.95	40.95
	PD5064 EXHT DUCT PRSS	0.058 TORR	-4.095	4.095		PD5071 EXHT DUCT PRSS DP	0.035 TORR	-4.095	4.095
‡‡						FW5081 TOT H2O FLO TO EVP	20.1 PPH	-409.5	409
	FW5082 H2O FLO TO FL EVAP	15.5 PPH	-409.5	409.5		FW5083 H2O FLO TO FL EVAP	14.8 PPH	-409.5	409.5
						WT5091 H2O TANK WEIGHT	104.3 LBS	-409.5	409.5
‡‡	HT5170 TOP OFF DUCT HTR 1	2.26 AMPS	-40.95	40.95		HT5172 TOP OFF DUCT HTR 3	1.57 AMPS	-40.95	40.
#	HT5171 TOP OFF DUCT HTR 2	UUU AMPS	-40.95	40.95		HT5173 TOP OFF DUCT HTR 4	2.14 AMPS	-40.95	40.95
‡‡	HT5174 R-ETY DT HTR PWR 1	0.86 AMPS	-40.95	40.95		HT5178 R-ETY DT HTR PWR 3	0.66 AMPS	-40.95	40.
	HT5175 R-ETY DT HTR PWR 2	0.94 AMPS	-40.95	40.95					
‡‡	HT5176 S S NOZZLE HTR	0.31 AMPS	-40.95	40.95		HT5177 S S NOZZLE HTR	0.31 AMPS	-40.95	40.
‡‡	FW5643 HI FL TO PRI VALV	2251 PPH	- 4095	4095		FW5649 HI FLOW TO SEC PNL	2252 PPH	- 4095	40
						FW5660 F21 TOTAL FLOW	4.48 KPPH	-40.95	40.95

-MID-	---DESCRIPTION----	---VALUE---	----LIMITS----		-MID-	---DESCRIPTION----	---VALUE---	----LIMITS----	
‡‡	ZD5201 INST HT RJCT EV 1	11.7 KBTU	-409.5	409.5		ZD5202 INST HT RJCT EV 2	12.9 KBTU	-409.5	409
						ZD5203 INSTANT HEAT RJCT	24.6 KBTU	-409.5	409.5
‡‡	ZD5211 TOT HT RJCT EVP 1	2.1 KBTU	-409.5	409.5		ZD5212 TOT HT RJCT EVP 2	2.3 KBTU	-409.5	409
						ZD5213 TOT HT RJCT	4.3 KBTU	-409.5	409.5
‡‡	ZW5221 TOT WATR FLW EV 1	2.8 LBS	-409.5	409.5		ZW5222 TOT WATR FLW EV 2	2.6 LBS	-409.5	409
						ZW5223 TOT WATR FLW	5.4 LBS	-409.5	409.5
						ZW5224 WATR TNK DIFF WT.	4.8 LBS	-409.5	409.5
‡‡*	ZE5231 SIG EVE TOT EVP 1	1.07 HRS	-40.95	40.95	*	ZE5232 SIG EVE TOT EVP 2	1.07 HRS	-40.95	40.
					*	ZE5236 TOTAL TEST TIME	1.07 HRS	-40.95	40.95
	ZD5241 AVG HT LOAD EVP 1A	11.6 KBTU	-409.5	409.5		ZD5242 AVG HT LOAD EVP 2A	12.8 KBTU	-409.5	409.5
						ZD5243 AVG HT LOAD A	24.4 KBTU	-409.5	409.5
‡‡	ZD5251 AVG HT LOAD EVP 1B	15.0 KBTU	-409.5	409.5		ZD5252 AVG HT LOAD EVP 2B	18.0 KBTU	-409.5	409
						ZD5253 AVG HT LOAD B	30.0 KBTU	-409.5	409.5
‡‡	ZF5261 AVG WATR USE EV 1	15.6 LBSH	-409.5	409.5		ZF5262 AVG WATR USE EV 2	14.9 LBSH	-409.5	409
						ZF5263 AVG WATR USE A	30.5 LBSH	-409.5	409.5
						ZF5264 AVG WATR USE B	27.0 LBSH	-409.5	409.5
‡‡	ZH5271 AVG ENT CHNG EV 1	742 BTUP	- 4095	4095		ZH5272 AVG ENT CHNG EV 2	861 BTUP	- 4095	40
						ZH5273 AVG ENTP CHNG A	800 BTUP	- 4095	4095
						ZH5281 AVG ENTP CHNG B	904 BTUP	- 4095	4095
‡‡	ZT5301 MIN F-21 OUT TEM 1	41.6 DEGF	-409.5	409.5		ZT5302 MIN F-21 OUT TEM 2	41.6 DEGF	-409.5	409
#	ZT5311 MAX F-21 OUT TEM 1	RRR DEGF	-409.5	409.5	#	ZT5312 MAX F-21 OUT TEM 2	RRR DEGF	-409.5	409.5
‡‡	ZD5321 TP-OF DT HTR PWR 1	212.5 WATT	-409.5	409.5		ZD5351 TP-OFF DUCT 1 AVG	124.5 DEGF	-409.5	409
#	ZD5322 TP-OF DT HTR PWR 2	RRR WATT	-409.5	409.5		ZD5352 TP-OFF DUCT 2 AVG	103.8 DEGF	-409.5	409.5
	ZD5323 TP-OF DT HTR PWR 3	40.6 WATT	-409.5	409.5		ZD5353 TP-OFF DUCT 3 AVG	112.4 DEGF	-409.5	409.5
	ZD5324 TP-OF DT HTR PWR 4	59.1 WATT	-409.5	409.5		ZD5354 TP-OFF DUCT 4 AVG	126.7 DEGF	-409.5	409.5
	ZD5331 R-ETY DT HTR PWR 1	10.5 WATT	-409.5	409.5		ZD5355 R-ETRY DUCT 1 AVG	48.0 DEGF	-409.5	409.5
	ZD5332 R-ETY DT HTR PWR 2	13.6 WATT	-409.5	409.5		ZD5356 R-ETRY DUCT 2 AVG	72.6 DEGF	-409.5	409.5
	ZD5333 R-ETY DT HTR PWR 3	10.0 WATT	-409.5	409.5		ZD5359 R-ETRY DUCT 3 AVG	52.9 DEGF	-409.5	409.5
	ZN5341 S S NOZ HTR PWR	27.7 WATT	-409.5	409.5		ZN5357 SS NOZZLE 1 AVG	114.3 DEGF	-409.5	409.5
	ZN5342 S S NOZ HTR PWR	27.7 WATT	-409.5	409.5		ZN5358 SS NOZZLE 2 AVG	106.5 DEGF	-409.5	409.5
‡‡	TM5403 MSFC ASPS TEMP 1	R3.5 DEGF	-409.5	409.5		TM5404 MSFC ASPS TEMP 2	78.0 DEGF	-409.5	409
#	TF5501 P FLO CONT VLV IN	LLL DEGF	-409.5	409.5		TF5506 S FLO CONT VLV IN	84.5 DEGF	-409.5	409.5
#	TF5528 P CON OUT MIX CH	UUU DEGF	-409.5	409.5	#	TF5530 S CON OUT MIX CH	UUU DEGF	-409.5	409.5
#	TF5529 P CON OUT MIX CH	UUU DEGF	-409.5	409.5	#	TF5531 S CON OUT MIX CH	UUU DEGF	-409.5	409.5
‡‡	FM5643 HI FL TO PRI VALV	2251 PPH	- 4095	4095		FM5649 HI FLOW TO SEC PNL	2252 PPH	- 4095	40

MID	DESCRIPTION	VALUE	LIMITS		MID	DESCRIPTION	VALUE	LIMITS	
TF5001	F-21 IN TO EVAP 1	65.8 DEGF	-409.5	409.5	TF5007	F-21 IN TO EVAP 2	66.8 DEGF	-409.5	409
TF5002	F-21 IN TO EVAP 1	64.6 DEGF	-409.5	409.5	TF5008	F-21 IN TO EVAP 2	66.2 DEGF	-409.5	409.5
TF5003	F-21 OUT OF EVAP 1	42.8 DEGF	-409.5	409.5	TF5009	F-21 OUT OF EVAP 2	65.8 DEGF	-409.5	409.5
TF5004	F-21 OUT OF EVAP 1	42.6 DEGF	-409.5	409.5	TF5010	F-21 OUT OF EVAP 2	65.8 DEGF	-409.5	409.5
TW5005	H2O IN TO EVAP 1	116.5 DEGF	-409.5	409.5	TW5011	H2O IN TO EVAP 2	113.1 DEGF	-409.5	409.5
TW5006	H2O IN TO EVAP 1	116.9 DEGF	-409.5	409.5	TW5012	H2O IN TO EVAP 2	112.7 DEGF	-409.5	409.5
TW5011	H2O IN TO EVAP 2	113.1 DEGF	-409.5	409.5	TD5017	EVAP EXH TOPOFF DT	131.9 DEGF	30.0	240
TW5012	H2O IN TO EVAP 2	112.7 DEGF	-409.5	409.5	TD5018	EVAP EXH TOPOFF DT	59.5 DEGF	30.0	240.0
TD5013	EVAP EXH TOPOFF DT	33.9 DEGF	30.0	240.0	TD5019	EVAP EXH TOPOFF DT	139.6 DEGF	30.0	240.0
TD5014	EVAP EXH TOPOFF DT	145.4 DEGF	30.0	240.0	TD5020	EVAP EXH TOPOFF DT	119.0 DEGF	30.0	240.0
TD5015	EVAP EXH TOPOFF DT	152.3 DEGF	30.0	240.0	TD5021	EVAP EXH TOPOFF DT	117.7 DEGF	30.0	240.0
TD5016	EVAP EXH TOPOFF DT	125.4 DEGF	30.0	240.0	TD5022	EVAP EXH TOPOFF DT	107.1 DEGF	30.0	240.0
TD5023	EVAP RE-ENTRY DUCT	112.5 DEGF	30.0	240.0	TD5028	EVAP RE-ENTRY DUCT	46.9 DEGF	30.0	240.0
TD5024	EVAP RE-ENTRY DUCT	133.2 DEGF	30.0	240.0	TD5029	EVAP RE-ENTRY DUCT	44.0 DEGF	30.0	240.0
TD5025	EVAP RE-ENTRY DUCT	119.0 DEGF	30.0	240.0	TD5030	EVAP RE-ENTRY DUCT	52.4 DEGF	30.0	240.0
TD5026	EVAP RE-ENTRY DUCT	108.5 DEGF	30.0	240.0	TD5031	EVAP RE-ENTRY DUCT	67.8 DEGF	30.0	240.0
TD5027	EVAP RE-ENTRY DUCT	46.3 DEGF	30.0	240.0					
TD5032	EVAP EXH RE-ENTRY	72.0 DEGF	30.0	240.0	TD5036	EVAP EXH RE-ENTRY	77.5 DEGF	30.0	240
TD5033	EVAP EXH RE-ENTRY	65.1 DEGF	30.0	240.0	TD5037	EVAP EXH RE-ENTRY	130.6 DEGF	30.0	240.0
TD5034	EVAP EXH RE-ENTRY	49.7 DEGF	30.0	240.0	TD5038	EVAP EXH RE-ENTRY	226.5 DEGF	30.0	240.0
TD5035	EVAP EXH RE-ENTRY	45.4 DEGF	30.0	240.0	TD5039	EVAP EXH RE-ENTRY	170.9 DEGF	30.0	240.0
					PN5051	H2O TK GN2 PRESS	28.5 PSI	-409.5	409
PF5052	F-21 DIF PRSS EV 1	10.2 PSID	-409.5	409.5	PF5053	F-21 DIF PRSS EV 2	10.4 PSID	-409.5	409.5
PW5054	H2O SUP PRSS TO EV	24.7 PSIA	-409.5	409.5	PW5055	H2O SUP PRSS TO EV	27.7 PSIA	-409.5	409.5
PE5056	EVAP 1 CHMBR PRSS	2.06 TORR	-40.95	40.95	PE5057	EVAP 2 CHMBR PRSS	1.29 TORR	-40.95	40.95
PD5058	EXHT DUCT PRSS DP	0.06 TORR	-40.95	40.95	PD5065	EXHT DUCT PRSS DP	0.08 TORR	-40.95	40.
PD5059	EXHT DUCT PRSS DP	0.28 TORR	-40.95	40.95	PD5066	EXHT DUCT PRSS DP	LLL TORR	-40.95	40.95
PD5060	EXHT DUCT PRSS DP	0.54 TORR	-40.95	40.95	PD5067	EXHT DUCT PRSS DP	0.38 TORR	-40.95	40.95
PD5061	EXHT DUCT PRSS	0.77 TORR	-40.95	40.95	PD5068	EXHT DUCT PRSS DP	0.35 TORR	-40.95	40.95
PD5062	EXHT DUCT PRSS	0.86 TORR	-40.95	40.95	PD5069	EXHT DUCT PRSS DP	0.59 TORR	-40.95	40.95
PD5063	EXHT DUCT PRSS	0.88 TORR	-40.95	40.95	PD5070	EXHT DUCT PRSS DP	0.02 TORR	-40.95	40.95
PD5064	EXHT DUCT PRSS	0.082 TORR	-4.095	4.095	PD5071	EXHT DUCT PRSS DP	0.017 TORR	-4.095	4.095
					FW5081	TOT H2O FLO TO EVP	17.0 PPH	-409.5	409
FW5082	H2O FLO TO FL EVAP	16.8 PPH	-409.5	409.5	FW5083	H2O FLO TO FL EVAP	0.0 PPH	-409.5	409.5
					WT5091	H2O TANK WEIGHT	96.0 LBS	-409.5	409.5
HI5170	TOP OFF DUCT HTR 1	2.27 AMPS	-40.95	40.95	HI5172	TOP OFF DUCT HTR 3	1.57 AMPS	-40.95	40.
HI5171	TOP OFF DUCT HTR 2	2.09 AMPS	-40.95	40.95	HI5173	TOP OFF DUCT HTR 4	2.17 AMPS	-40.95	40.95
HI5174	R-ETY DT HTR PWR 1	0.86 AMPS	-40.95	40.95	HI5178	R-ETY DT HTR PWR 3	0.67 AMPS	-40.95	40.
HI5175	R-ETY DT HTR PWR 2	0.92 AMPS	-40.95	40.95					
HI=176	S S NOZZLE HTR	0.31 AMPS	-40.95	40.95	HI5177	S S NOZZLE HTR	0.31 AMPS	-40.95	40.
FW5643	HI FL TO PRI VALV	2251 PPH	- 4095	4095	FW5649	HI FLOW TO SEC PNL	2252 PPH	- 4095	4095
					FW5660	F21 TOTAL FLOW	4.48 KPPH	-40.95	40.95

-MID-	---DESCRIPTION----	---VALUE---	----LIMITS----		-MID-	---DESCRIPTION----	---VALUE---	----LIMITS----	
!!	Z05201 INST HT RJCT EV 1	12.3 KBTU	-409.5	409.5		Z05202 INST HT RJCT EV 2	0.0 KBTU	-409.5	409
						Z05203 INSTANT HEAT RJCT	12.3 KBTU	-409.5	409.5
!!	Z05211 TOT HT RJCT EVP 1	4.4 KBTU	-409.5	409.5		Z05212 TOT HT RJCT EVP 2	0.1 KBTU	-409.5	409
						Z05213 TOT HT RJCT	4.5 KBTU	-409.5	409.5
!!	Z05221 TOT WATR FLW EV 1	5.7 LBS	-409.5	409.5		Z05222 TOT WATR FLW EV 2	0.0 LBS	-409.5	409
						Z05223 TOT WATR FLW	5.7 LBS	-409.5	409.5
						Z05224 WATR TNK DIFF WT.	4.8 LBS	-409.5	409.5
!!*	ZE5231 SIG EVE TOT EVP 1	0.00 HRS	-40.95	40.95	*	ZE5232 SIG EVE TOT EVP 2	0.00 HRS	-40.95	40.
					*	ZE5234 TOTAL TEST TIME	2.19 HRS	-40.95	40.95
!!	Z05241 AVG HT LOAD EVP 1A	12.1 KBTU	-409.5	409.5		Z05242 AVG HT LOAD EVP 2A	0.2 KBTU	-409.5	409
						Z05243 AVG HT LOAD A	12.3 KBTU	-409.5	409.5
!!	Z05251 AVG HT LOAD EVP 1B	15.0 KBTU	-409.5	409.5		Z05252 AVG HT LOAD EVP 2B	0.0 KBTU	-409.5	409
						Z05253 AVG HT LOAD B	15.0 KBTU	-409.5	409.5
	ZF5241 AVG WATR USE EV 1	15.7 LBSH	-409.5	409.5		ZF5262 AVG WATR USE EV 2	0.0 LBSH	-409.5	409.5
						ZF5263 AVG WATR USE A	15.7 LBSH	-409.5	409.5
						ZF5264 AVG WATR USE B	13.1 LBSH	-409.5	409.5
!!	ZH5271 AVG ENT CHNG EV 1	773 BTUP	- 4095	4095	#	ZH5272 AVG ENT CHNG EV 2	###### BTUP	- 4095	40
						ZH5273 AVG ENTP CHNG A	784 BTUP	- 4095	4095
						ZH5281 AVG ENTP CHNG B	939 BTUP	- 4095	4095
!!	ZT5301 MIN F-21 OUT TEM 1	41.0 DEGF	-409.5	409.5		ZT5302 MIN F-21 OUT TEM 2	63.0 DEGF	-409.5	409
#	ZT5311 MAX F-21 OUT TEM 1	###### DEGF	-409.5	409.5	#	ZT5312 MAX F-21 OUT TEM 2	###### DEGF	-409.5	409.5
	ZD5321 TP-OF DT HTR PWR 1	217.4 WATT	-409.5	409.5		ZD5351 TP-OFF DUCT 1 AVG	197.4 DEGF	-409.5	409.5
	ZD5322 TP-OF DT HTR PWR 2	136.9 WATT	-409.5	409.5		ZD5352 TP-OFF DUCT 2 AVG	105.4 DEGF	-409.5	409.5
	ZD5323 TP-OF DT HTR PWR 3	39.9 WATT	-409.5	409.5		ZD5353 TP-OFF DUCT 3 AVG	116.7 DEGF	-409.5	409.5
	ZD5324 TP-OF DT HTR PWR 4	62.2 WATT	-409.5	409.5		ZD5354 TP-OFF DUCT 4 AVG	132.3 DEGF	-409.5	409.5
	ZD5331 R-ETY DT HTR PWR 1	10.5 WATT	-409.5	409.5		ZD5355 R-ETRY DUCT 1 AVG	48.0 DEGF	-409.5	409.5
	ZD5332 R-ETY DT HTR PWR 2	13.6 WATT	-409.5	409.5		ZD5356 R-ETRY DUCT 2 AVG	72.4 DEGF	-409.5	409.5
	ZD5333 R-ETY DT HTR PWR 3	10.0 WATT	-409.5	409.5		ZD5359 R-ETRY DUCT 3 AVG	52.9 DEGF	-409.5	409.5
	ZN5341 S S NOZ HTR PWR	27.7 WATT	-409.5	409.5		ZN5357 SS NOZZLE 1 AVG	122.9 DEGF	-409.5	409.5
	ZN5342 S S NOZ HTR PWR	27.7 WATT	-409.5	409.5		ZN5358 SS NOZZLE 2 AVG	113.8 DEGF	-409.5	409.5
!!	TM5403 MSFC ASPS TEMP 1	83.5 DEGF	-409.5	409.5		TM5404 MSFC ASPS TEMP 2	79.3 DEGF	-409.5	409
#	TF5501 P FLO CONT VLV IN	LLL DEGF	-409.5	409.5		TF5506 S FLO CONT VLV IN	119.3 DEGF	-409.5	409.5
#	TF5528 P CON OUT MIX CH	UUU DEGF	-409.5	409.5	#	TF5530 S CON OUT MIX CH	UUU DEGF	-409.5	409.5
#	TF5529 P CON OUT MIX CH	UUU DEGF	-409.5	409.5	#	TF5531 S CON OUT MIX CH	UUU DEGF	-409.5	409.5
	FM5643 HI FL TO PRI VALV	2251 PPH	- 4095	4095		FM5649 HI FLOW TO SEC PNL	2252 PPH	- 4095	4095

	-MID-	---DESCRIPTION----	---VALUE---	----LIMITS----		-MID-	---DESCRIPTION----	---VALUE---	----LIMITS----	
**	TE5011	F-21 IN TO EVAP 1	65.8 DEGF	-409.5 409.5		TE5007	F-21 IN TO EVAP 2	66.4 DEGF	-409.5	409
	TE5012	F-21 IN TO EVAP 1	64.2 DEGF	-409.5 409.5		TE5008	F-21 IN TO EVAP 2	65.8 DEGF	-409.5	409.5
	TE5013	F-21 OUT OF EVAP 1	55.0 DEGF	-409.5 409.5		TE5009	F-21 OUT OF EVAP 2	41.9 DEGF	-409.5	409.5
	TE5014	F-21 OUT OF EVAP 1	65.4 DEGF	-409.5 409.5		TE5010	F-21 OUT OF EVAP 2	42.3 DEGF	-409.5	409.5
	TW5005	H20 IN TO EVAP 1	117.3 DEGF	-409.5 409.5		TW5011	H20 IN TO EVAP 2	119.4 DEGF	-409.5	409.5
	TW5006	H20 IN TO EVAP 1	117.7 DEGF	-409.5 409.5		TW5012	H20 IN TO EVAP 2	119.2 DEGF	-409.5	409.5
**	TW5011	H20 IN TO EVAP 2	119.6 DEGF	-409.5 409.5		TD5017	EVAP EXH TOPOFF DT	142.2 DEGF	30.0	240
	TW5012	H20 IN TO EVAP 2	119.2 DEGF	-409.5 409.5		TD5018	EVAP EXH TOPOFF DT	59.6 DEGF	30.0	240.0
	TD5013	EVAP EXH TOPOFF DT	109.8 DEGF	30.0 240.0		TD5019	EVAP EXH TOPOFF DT	147.3 DEGF	30.0	240.0
	TD5014	EVAP EXH TOPOFF DT	62.3 DEGF	30.0 240.0		TD5020	EVAP EXH TOPOFF DT	125.6 DEGF	30.0	240.0
	TD5015	EVAP EXH TOPOFF DT	144.8 DEGF	30.0 240.0		TD5021	EVAP EXH TOPOFF DT	120.3 DEGF	30.0	240.0
	TD5016	EVAP EXH TOPOFF DT	135.8 DEGF	30.0 240.0		TD5022	EVAP EXH TOPOFF DT	115.1 DEGF	30.0	240.0
**	TD5023	EVAP RE-ENTRY DUCT	117.7 DEGF	30.0 240.0		TD5028	EVAP RE-ENTRY DUCT	64.9 DEGF	30.0	240
	TD5024	EVAP RE-ENTRY DUCT	138.3 DEGF	30.0 240.0		TD5029	EVAP RE-ENTRY DUCT	45.4 DEGF	30.0	240.0
	TD5025	EVAP RE-ENTRY DUCT	117.7 DEGF	30.0 240.0		TD5030	EVAP RE-ENTRY DUCT	52.4 DEGF	30.0	240.0
	TD5026	EVAP RE-ENTRY DUCT	105.6 DEGF	30.0 240.0		TD5031	EVAP RE-ENTRY DUCT	69.2 DEGF	30.0	240.0
	TD5027	EVAP RE-ENTRY DUCT	69.7 DEGF	30.0 240.0						
**	TD5032	EVAP EXH RE-ENTRY	73.4 DEGF	30.0 240.0		TD5036	EVAP EXH RE-ENTRY	78.9 DEGF	30.0	240
	TD5033	EVAP EXH RE-ENTRY	55.1 DEGF	30.0 240.0		TD5037	EVAP EXH RE-ENTRY	153.5 DEGF	30.0	240.0
	TD5034	EVAP EXH RE-ENTRY	51.2 DEGF	30.0 240.0		TD5038	EVAP EXH RE-ENTRY	189.3 DEGF	30.0	240.0
	TD5035	EVAP EXH RE-ENTRY	44.0 DEGF	30.0 240.0		TD5039	EVAP EXH RE-ENTRY	156.0 DEGF	30.0	240.0
**						PN5051	H20 TK GN2 PRESS	28.5 PSI	-409.5	409
	PF5052	F-21 DIF PRSS EV 1	10.3 PSID	-409.5 409.5		PF5053	F-21 DIF PRSS EV 2	10.7 PSID	-409.5	409.5
	PE5054	H20 SUP PRSS TO EV	27.1 PSIA	-409.5 409.5		PE5055	H20 SUP PRSS TO EV	20.4 PSIA	-409.5	409.5
	PE5056	EVAP 1 CHMBR PRSS	1.86 TORR	-40.95 40.95		PE5057	EVAP 2 CHMBR PRSS	1.23 TORR	-40.95	40.95
**	PD5058	EXHT DUCT PRSS DP	0.22 TORR	-40.95 40.95		PD5065	EXHT DUCT PRSS DP	0.60 TORR	-40.95	40.
#	PD5059	EXHT DUCT PRSS DP	LLL TORR	-40.95 40.95	#	PD5066	EXHT DUCT PRSS DP	LLL TORR	-40.95	40.95
	PD5060	EXHT DUCT PRSS DP	0.07 TORR	-40.95 40.95		PD5067	EXHT DUCT PRSS DP	0.40 TORR	-40.95	40.95
	PD5061	EXHT DUCT PRSS	0.77 TORR	-40.95 40.95		PD5068	EXHT DUCT PRSS DP	0.37 TORR	-40.95	40.95
	PD5062	EXHT DUCT PRSS	0.92 TORR	-40.95 40.95		PD5069	EXHT DUCT PRSS DP	0.30 TORR	-40.95	40.95
	PD5063	EXHT DUCT PRSS	0.92 TORR	-40.95 40.95		PD5070	EXHT DUCT PRSS DP	0.03 TORR	-40.95	40.95
	PD5064	EXHT DUCT PRSS	0.034 TORR	-4.095 4.095		PD5071	EXHT DUCT PRSS DP	0.018 TORR	-4.095	4.095
**						FW5081	TOT H20 FLO TO EVP	14.1 PPH	-409.5	409
	FW5082	H20 FLO TO FL EVAP	0.0 PPH	-409.5 409.5		FW5083	H20 FLO TO FL EVAP	15.1 PPH	-409.5	409.5
						WT5091	H20 TANK WEIGHT	90.7 LBS	-409.5	409.5
**	HI5170	TOP OFF DUCT HTR 1	2.27 AMPS	-40.95 40.95		HI5172	TOP OFF DUCT HTR 3	1.55 AMPS	-40.95	40.
	HI5171	TOP OFF DUCT HTR 2	0.64 AMPS	-40.95 40.95		HI5173	TOP OFF DUCT HTR 4	2.12 AMPS	-40.95	40.95
	HI5174	R-ETY DT HTR PWR 1	0.86 AMPS	-40.95 40.95		HI5178	R-ETY DT HTR PWR 3	0.67 AMPS	-40.95	40.95
	HI5175	R-ETY DT HTR PWR 2	0.92 AMPS	-40.95 40.95						
**	HI5176	S S NOZZLE HTR	0.31 AMPS	-40.95 40.95		HI5177	S S NOZZLE HTR	0.31 AMPS	-40.95	40.
**	FW5643	HI FL TO PRI VALV	2264 PPH	- 4095 4055		FW5649	HI FLOW TO SEC PNL	2264 PPH	- 4095	40
						FW5460	F21 TOTAL FLOW	4.51 KPPH	-40.95	40.95

-MI-	-DESCRIPTION-	-VALUE-	-LIMITS-	-MI-	-DESCRIPTION-	-VALUE-	-LIMITS-
	Z05201 INST HT RJCT EV 1	- 0.7 KBTU	-409.5 409.5		Z05202 INST HT RJCT EV 2	13.4 KBTU	-409.5 409.
					Z05203 INSTANT HEAT RJCT	12.8 KBTU	-409.5 409.5
	Z05211 TOT HT RJCT EVP 1	- 0.2 KBTU	-409.5 409.5		Z05212 TOT HT RJCT EVP 2	3.8 KBTU	-409.5 409
					Z05213 TOT HT RJCT	3.7 KBTU	-409.5 409.5
	Z05221 TOT WATR FLW EV 1	0.0 LBS	-409.5 409.5		Zw5222 TOT WATR FLW EV 2	4.4 LBS	-409.5 409
					ZW5223 TOT WATR FLW	4.4 LBS	-409.5 409.5
					ZW5224 WATR TNK DIFF WT.	4.2 LBS	-409.5 409.5
	ZE5231 SIG EVE TOT EVP 1	1.71 HRS	-40.95 40.95	*	ZE5232 SIG EVE TOT EVP 2	1.71 HRS	-40.95 40.
				*	ZE5234 TOTAL TEST TIME	1.91 HRS	-40.95 40.95
	Z05241 AVG HT LOAD EVP 1A	- 0.5 KBTU	-409.5 409.5		Z05242 AVG HT LOAD EVP 2A	12.0 KBTU	-409.5 409.
					Z05243 AVG HT LOAD A	11.8 KBTU	-409.5 409.5
	Z05251 AVG HT LOAD EVP 1B	0.0 KBTU	-409.5 409.5		Z05252 AVG HT LOAD EVP 2B	13.4 KBTU	-409.5 409
					Z05253 AVG HT LOAD B	13.4 KBTU	-409.5 409.5
	ZF5261 AVG WATR USE EV 1	0.0 LBSM	-409.5 409.5		ZF5262 AVG WATR USE EV 2	14.0 LBSM	-409.5 409
					ZF5263 AVG WATR USE A	14.0 LBSM	-409.5 409.5
					ZF5264 AVG WATR USE B	13.9 LBSM	-409.5 409.5
	ZH5271 AVG ENT CHNG EV 1	RRR BTUP	- 4095 4095		ZH5272 AVG ENT CHNG EV 2	859 BTUP	- 4095 40
					ZH5273 AVG ENTP CHNG A	829 BTUP	- 4095 4095
					ZH5281 AVG ENTP CHNG B	870 BTUP	- 4095 4095
	ZT5301 MIN F-21 OUT TEM 1	64.2 DEGF	-409.5 409.5		ZT5302 MIN F-21 OUT TEM 2	41.9 DEGF	-409.5 409
#	ZT5311 MAX F-21 OUT TEM 1	RRR DEGF	-409.5 409.5	#	ZT5312 MAX F-21 OUT TEM 2	RRR DEGF	-409.5 409.5
	ZD5321 TP-OF DT HTR PWR 1	213.2 WATT	-409.5 409.5		ZD5351 TP-OFF DUCT 1 AVG	136.9 DEGF	-409.5 409
	ZD5322 TP-OF DT HTR PWR 2	13.1 WATT	-409.5 409.5		ZD5352 TP-OFF DUCT 2 AVG	136.0 DEGF	-409.5 409.5
	ZD5323 TP-OF DT HTR PWR 3	40.4 WATT	-409.5 409.5		ZD5353 TP-OFF DUCT 3 AVG	123.7 DEGF	-409.5 409.5
	ZD5324 TP-OF DT HTR PWR 4	59.5 WATT	-409.5 409.5		ZD5354 TP-OFF DUCT 4 AVG	141.8 DEGF	-409.5 409.5
	ZD5331 R-ETY DT HTR PWR 1	10.5 WATT	-409.5 409.5		ZD5355 R-ETRY DUCT 1 AVG	48.7 DEGF	-409.5 409.5
	ZD5332 R-ETY DT HTR PWR 2	13.1 WATT	-409.5 409.5		ZD5356 R-ETRY DUCT 2 AVG	73.8 DEGF	-409.5 409.5
	ZD5333 R-ETY DT HTR PWR 3	10.2 WATT	-409.5 409.5		ZD5359 R-ETRY DUCT 3 AVG	53.4 DEGF	-409.5 409.5
	ZN5341 S S NOZ HTR PWR	27.7 WATT	-409.5 409.5		ZN5357 SS NOZZLE 1 AVG	128.0 DEGF	-409.5 409.5
	ZN5342 S S NOZ HTR PWR	27.7 WATT	-409.5 409.5		ZN5358 SS NOZZLE 2 AVG	111.8 DEGF	-409.5 409.5
	TM5403 MSFC ASPS TEMP 1	83.5 DEGF	-409.5 409.5		TM5404 MSFC ASPS TEMP 2	78.0 DEGF	-409.5 409.5
#	TF5501 P FLO CONT VLV IN	LLL DEGF	-409.5 409.5		TF5506 S FLO CONT VLV IN	195.6 DEGF	-409.5 409.5
#	TF5528 P CON OUT MIX CH	UUU DEGF	-409.5 409.5	#	TF5530 S CON OUT MIX CH	UUU DEGF	-409.5 409.5
#	TF5529 P CON OUT MIX CH	UUU DEGF	-409.5 409.5	#	TF5531 S CON OUT MIX CH	UUU DEGF	-409.5 409.5
	FM5643 HI FL TO PRI VALV	2264 PPH	- 4095 4095		FM5649 HI FLOW TO SEC PNL	2264 PPH	- 4095 40

-MID-	---DESCRIPTION----	---VALUE---	----LIMITS----		-MID-	---DESCRIPTION----	---VALUE---	----LIMITS----	
‡‡	TF5001 F-21 IN TO EVAP 1	47.4 DEGF	-409.5	409.5		TF5007 F-21 IN TO EVAP 2	60.4 DEGF	-409.5	409
	TF5002 F-21 IN TO EVAP 1	45.8 DEGF	-409.5	409.5		TF5008 F-21 IN TO EVAP 2	69.8 DEGF	-409.5	409.5
	TF5003 F-21 OUT OF EVAP 1	42.6 DEGF	-409.5	409.5		TF5009 F-21 OUT OF EVAP 2	42.3 DEGF	-409.5	409.5
	TF5004 F-21 OUT OF EVAP 1	43.0 DEGF	-409.5	409.5		TF5010 F-21 OUT OF EVAP 2	42.2 DEGF	-409.5	409.5
	TW5005 H20 IN TO EVAP 1	45.0 DEGF	-409.5	409.5		TW5011 H20 IN TO EVAP 2	47.0 DEGF	-409.5	409.5
	TW5006 H20 IN TO EVAP 1	45.4 DEGF	-409.5	409.5		TW5012 H20 IN TO EVAP 2	46.2 DEGF	-409.5	409.5
‡‡	TW5011 H20 IN TO EVAP 2	47.0 DEGF	-409.5	409.5		TD5017 EVAP EXH TOPOFF DT	109.8 DEGF	30.0	240
	TW5012 H20 IN TO EVAP 2	46.2 DEGF	-409.5	409.5		TD5018 EVAP EXH TOPOFF DT	65.1 DEGF	30.0	240.0
	TD5013 EVAP EXH TOPOFF DT	88.4 DEGF	30.0	240.0		TD5019 EVAP EXH TOPOFF DT	124.1 DEGF	30.0	240.0
	TD5014 EVAP EXH TOPOFF DT	70.6 DEGF	30.0	240.0		TD5020 EVAP EXH TOPOFF DT	125.4 DEGF	30.0	240.0
	TD5015 EVAP EXH TOPOFF DT	129.3 DEGF	30.0	240.0		TD5021 EVAP EXH TOPOFF DT	116.4 DEGF	30.0	240.0
	TD5016 EVAP EXH TOPOFF DT	104.5 DEGF	30.0	240.0		TD5022 EVAP EXH TOPOFF DT	104.5 DEGF	30.0	240.0
‡‡	TD5023 EVAP RE-ENTRY DUCT	117.7 DEGF	30.0	240.0		TD5028 EVAP RE-ENTRY DUCT	46.9 DEGF	30.0	240
	TD5024 EVAP RE-ENTRY DUCT	139.6 DEGF	30.0	240.0		TD5029 EVAP RE-ENTRY DUCT	44.0 DEGF	30.0	240.0
	TD5025 EVAP RE-ENTRY DUCT	117.7 DEGF	30.0	240.0		TD5030 EVAP RE-ENTRY DUCT	51.2 DEGF	30.0	240.0
	TD5026 EVAP RE-ENTRY DUCT	108.5 DEGF	30.0	240.0		TD5031 EVAP RE-ENTRY DUCT	66.5 DEGF	30.0	240.0
	TD5027 EVAP RE-ENTRY DUCT	48.3 DEGF	30.0	240.0					
‡‡	TD5032 EVAP EXH RE-ENTRY	70.6 DEGF	30.0	240.0		TD5036 EVAP EXH RE-ENTRY	74.8 DEGF	30.0	240
	TD5033 EVAP EXH RE-ENTRY	62.3 DEGF	30.0	240.0		TD5037 EVAP EXH RE-ENTRY	144.8 DEGF	30.0	240.0
	TD5034 EVAP EXH RE-ENTRY	48.3 DEGF	30.0	240.0		TD5038 EVAP EXH RE-ENTRY	148.5 DEGF	30.0	240.0
	TD5035 EVAP EXH RE-ENTRY	42.5 DEGF	30.0	240.0		TD5039 EVAP EXH RE-ENTRY	137.0 DEGF	30.0	240.0
‡‡						PN5051 H20 TK GN2 PRESS	28.5 PSI	-409.5	409
	PF5052 F-21 DIF PRSS EV 1	10.4 PSID	-409.5	409.5		PF5053 F-21 DIF PRSS EV 2	10.7 PSID	-409.5	409.5
	PW5054 H20 SUP PRSS TO EV	16.8 PSIA	-409.5	409.5		PW5055 H20 SUP PRSS TO EV	17.2 PSIA	-409.5	409.5
	PE5056 EVAP 1 CHMBR PRSS	3.23 TORR	-40.95	40.95		PE5057 EVAP 2 CHMBR PRSS	1.36 TORR	-40.95	40.95
‡‡	PD5058 EXHT DUCT PRSS DP	0.15 TORR	-40.95	40.95		PD5065 EXHT DUCT PRSS DP	0.36 TORR	-40.95	40.
	PD5059 EXHT DUCT PRSS DP	0.15 TORR	-40.95	40.95	#	PD5066 EXHT DUCT PRSS DP	LLL TORR	-40.95	40.95
	PD5060 EXHT DUCT PRSS DP	0.29 TORR	-40.95	40.95		PD5067 EXHT DUCT PRSS DP	0.56 TORR	-40.95	40.95
	PD5061 EXHT DUCT PRSS	1.31 TORR	-40.95	40.95		PD5068 EXHT DUCT PRSS DP	0.50 TORR	-40.95	40.95
	PD5062 EXHT DUCT PRSS	1.67 TORR	-40.95	40.95		PD5069 EXHT DUCT PRSS DP	0.61 TORR	-40.95	40.95
	PD5063 EXHT DUCT PRSS	1.63 TORR	-40.95	40.95		PD5070 EXHT DUCT PRSS DP	0.04 TORR	-40.95	40.95
#	PD5064 EXHT DUCT PRSS	UUU TORR	-4.095	4.095		PD5071 EXHT DUCT PRSS DP	0.038 TORR	-4.095	4.095
‡‡						FW5081 TOT H20 FLO TO EVP	29.1 PPH	-409.5	409
	FW5082 H20 FLO TO FL EVAP	15.1 PPH	-409.5	409.5		FW5083 H20 FLO TO FL EVAP	14.8 PPH	-409.5	409.5
						WT5091 H20 TANK WEIGHT	62.8 LBS	-409.5	409.5
‡‡	HT5170 TOP OFF DUCT HTR 1	2.27 AMPS	-40.95	40.95		HT5172 TOP OFF DUCT HTR 3	1.57 AMPS	-40.95	40.
	HT5171 TOP OFF DUCT HTR 2	2.70 AMPS	-40.95	40.95		HT5173 TOP OFF DUCT HTR 4	2.19 AMPS	-40.95	40.95
‡‡	HT5174 R-ETY DT HTR PWR 1	0.86 AMPS	-40.95	40.95		HT5178 R-ETY DT HTR PWR 3	0.67 AMPS	-40.95	40.
	HT5175 R-ETY DT HTR PWR 2	0.94 AMPS	-40.95	40.95					
‡‡	HT5176 S S NOZZLE HTR	0.32 AMPS	-40.95	40.95		HT5177 S S NOZZLE HTR	0.32 AMPS	-40.95	40.
	FM5663 HI FL TO PRI VALV	2251 PPH	- 4095	4095		FM5649 HI FLOW TO SEC PNL	2266 PPH	- 4095	4095
						FM5660 F21 TOTAL FLOW	4.54 KPPH	-40.95	40.95

	MID	DESCRIPTION	VALUE	LIMITS		MID	DESCRIPTION	VALUE	LIMITS	
‡‡	ZQ5201	INST HT RJCT EV 1	12.8 KBTU	-409.5	409.5	ZQ5202	INST HT RJCT EV 2	15.5 KBTU	-409.5	409
						ZQ5203	INSTANT HEAT RJCT	28.3 KBTU	-409.5	409.5
‡‡	ZQ5211	TOT HT RJCT EVP 1	7.4 KBTU	-409.5	409.5	ZQ5212	TOT HT RJCT EVP 2	8.5 KBTU	-409.5	409
						ZQ5213	TOT HT RJCT	16.2 KBTU	-409.5	409.5
‡‡	ZW5221	TOT WATR FLW EV 1	8.8 LBS	-409.5	409.5	ZW5222	TOT WATR FLW EV 2	8.5 LBS	-409.5	409
						ZW5223	TOT WATR FLW	17.3 LBS	-409.5	409.5
						# ZW5224	WATR TNK DIFF WT.	RRR LBS	-409.5	409.5
‡‡*	ZE5231	SIG EVE TOT EVP 1	33.7 MIN	-409.5	409.5	* ZE5232	SIG EVE TOT EVP 2	33.7 MIN	-409.5	409
						* ZE5234	TOTAL TEST TIME	34.1 MIN	-409.5	409.5
‡‡	ZQ5241	AVG HT LOAD EVP 1A	13.1 KBTU	-409.5	409.5	ZQ5242	AVG HT LOAD EVP 2A	15.5 KBTU	-409.5	409
						ZQ5243	AVG HT LOAD A	28.6 KBTU	-409.5	409.5
‡‡	ZQ5251	AVG HT LOAD EVP 1B	15.0 KBTU	-409.5	409.5	ZQ5252	AVG HT LOAD EVP 2B	14.8 KBTU	-409.5	409
						ZQ5253	AVG HT LOAD B	29.8 KBTU	-409.5	409.5
‡‡	ZF5261	AVG WATR USE EV 1	15.4 LBSH	-409.5	409.5	ZF5262	AVG WATR USE EV 2	15.0 LBSH	-409.5	409
						ZF5263	AVG WATR USE A	30.4 LBSH	-409.5	409.5
						# ZF5264	AVG WATR USE B	RRR LBSH	-409.5	409.5
‡‡	ZH5271	AVG ENT CHNG EV 1	846 BTUP	- 4095	4095	ZH5272	AVG ENT CHNG EV 2	1034 BTUP	- 4095	40
						ZH5273	AVG ENTP CHNG A	939 BTUP	- 4095	4095
						# ZH5281	AVG ENTP CHNG B	RRR BTUP	- 4095	4095
‡‡	ZT5301	MIN F-21 OUT TEM 1	41.6 DEGF	-409.5	409.5	ZT5302	MIN F-21 OUT TEM 2	40.9 DEGF	-409.5	40
#	ZT5311	MAX F-21 OUT TEM 1	RRR DEGF	-409.5	409.5	# ZT5312	MAX F-21 OUT TEM 2	RRR DEGF	-409.5	409.5
‡‡	ZQ5321	TP-OFF DT HTR PWR 1	209.6 WATT	-409.5	409.5	ZQ5351	TP-OFF DUCT 1 AVG	119.2 DEGF	-409.5	409
	ZQ5322	TP-OF DT HTR PWR 2	227.8 WATT	-409.5	409.5	ZQ5352	TP-OFF DUCT 2 AVG	120.8 DEGF	-409.5	409.5
	ZQ5323	TP-OF DT HTR PWR 3	40.3 WATT	-409.5	409.5	ZQ5353	TP-OFF DUCT 3 AVG	108.5 DEGF	-409.5	409.5
	ZQ5324	TP-OF DT HTR PWR 4	60.0 WATT	-409.5	409.5	ZQ5354	TP-OFF DUCT 4 AVG	112.8 DEGF	-409.5	409.5
	ZQ5331	R-ETY DT HTR PWR 1	10.1 WATT	-409.5	409.5	ZQ5355	R-ETRY DUCT 1 AVG	47.4 DEGF	-409.5	409.5
	ZQ5332	R-ETY DT HTR PWR 2	13.1 WATT	-409.5	409.5	ZQ5356	R-ETRY DUCT 2 AVG	70.4 DEGF	-409.5	409.5
	ZQ5333	R-ETY DT HTR PWR 3	10.2 WATT	-409.5	409.5	ZQ5359	R-ETRY DUCT 3 AVG	51.5 DEGF	-409.5	409.5
	ZN5341	S S NOZ HTR PWR	27.7 WATT	-409.5	409.5	ZN5357	SS NOZZLE 1 AVG	120.7 DEGF	-409.5	409.5
	ZN5342	S S NOZ HTR PWR	27.7 WATT	-409.5	409.5	ZN5358	SS NOZZLE 2 AVG	113.1 DEGF	-409.5	409.5
‡‡	TM5403	MSFC ASPS TEMP 1	83.5 DEGF	-409.5	409.5	TM5404	MSFC ASPS TEMP 2	79.3 DEGF	-409.5	409
#	TF5501	P FLO CONT VLV IN	LLL DEGF	-409.5	409.5	TF5506	S FLO CONT VLV IN	38.2 DEGF	-409.5	409.5
#	TF5529	P CON OUT MIX CH	UUU DEGF	-409.5	409.5	# TF5530	S CON OUT MIX CH	UUU DEGF	-409.5	409.5
#	TF5529	P CON OUT MIX CH	UUU DEGF	-409.5	409.5	# TF5531	S CON OUT MIX CH	UUU DEGF	-409.5	409.5
‡‡	FM5643	HI FL TO PRI VALV	2251 PPH	- 4095	4095	FM5649	HI FLOW TO SEC PNL	2264 PPH	- 4095	40

-MID-	---DESCRIPTION----	---VALUE---	----LIMITS----		-MID-	---DESCRIPTION----	---VALUE---	----LIMITS----	
**	TF5001 F-21 IN TO EVAP 1	56.5 DEGF	-409.5	409.5		TF5007 F-21 IN TO EVAP 2	54.1 DEGF	-409.5	409
	TF5002 F-21 IN TO EVAP 1	54.8 DEGF	-409.5	409.5		TF5008 F-21 IN TO EVAP 2	55.5 DEGF	-409.5	409.5
	TF5003 F-21 OUT OF EVAP 1	45.8 DEGF	-409.5	409.5		TF5009 F-21 OUT OF EVAP 2	42.3 DEGF	-409.5	409.5
	TF5004 F-21 OUT OF EVAP 1	46.6 DEGF	-409.5	409.5		TF5010 F-21 OUT OF EVAP 2	42.4 DEGF	-409.5	409.5
	TW5005 H2O IN TO EVAP 1	48.7 DEGF	-409.5	409.5		TW5011 H2O IN TO EVAP 2	49.0 DEGF	-409.5	409.5
	TW5006 H2O IN TO EVAP 1	49.1 DEGF	-409.5	409.5		TW5012 H2O IN TO EVAP 2	49.5 DEGF	-409.5	409.5
**	TW5011 H2O IN TO EVAP 2	49.9 DEGF	-409.5	409.5		TD5017 EVAP EXH TOPOFF DT	153.5 DEGF	30.0	240
	TW5012 H2O IN TO EVAP 2	49.5 DEGF	-409.5	409.5		TD5018 EVAP EXH TOPOFF DT	62.3 DEGF	30.0	240.0
	TD5013 EVAP EXH TOPOFF DT	126.7 DEGF	30.0	240.0		TD5019 EVAP EXH TOPOFF DT	151.0 DEGF	30.0	240.0
	TD5014 EVAP EXH TOPOFF DT	101.8 DEGF	30.0	240.0		TD5020 EVAP EXH TOPOFF DT	140.9 DEGF	30.0	240.0
	TD5015 EVAP EXH TOPOFF DT	174.7 DEGF	30.0	240.0		TD5021 EVAP EXH TOPOFF DT	126.7 DEGF	30.0	240.0
	TD5016 EVAP EXH TOPOFF DT	147.3 DEGF	30.0	240.0		TD5022 EVAP EXH TOPOFF DT	122.8 DEGF	30.0	240.0
**	TD5023 EVAP RE-ENTRY DUCT	133.2 DEGF	30.0	240.0		TD5028 EVAP RE-ENTRY DUCT	48.3 DEGF	30.0	240
	TD5024 EVAP RE-ENTRY DUCT	154.8 DEGF	30.0	240.0		TD5029 EVAP RE-ENTRY DUCT	44.0 DEGF	30.0	240.0
	TD5025 EVAP RE-ENTRY DUCT	124.1 DEGF	30.0	240.0		TD5030 EVAP RE-ENTRY DUCT	52.6 DEGF	30.0	240.0
	TD5026 EVAP RE-ENTRY DUCT	112.5 DEGF	30.0	240.0		TD5031 EVAP RE-ENTRY DUCT	69.2 DEGF	30.0	240.0
	TD5027 EVAP RE-ENTRY DUCT	49.7 DEGF	30.0	240.0					
**	TD5032 EVAP EX RE-ENTRY	73.4 DEGF	30.0	240.0		TD5036 EVAP EXH RE-ENTRY	78.9 DEGF	30.0	240
	TD5033 EVAP EXH RE-ENTRY	65.1 DEGF	30.0	240.0		TD5037 EVAP EXH RE-ENTRY	200.2 DEGF	30.0	240.0
	TD5034 EVAP EXH RE-ENTRY	49.7 DEGF	30.0	240.0		TD5038 EVAP EXH RE-ENTRY	193.1 DEGF	30.0	240.0
	TD5035 EVAP EXH RE-ENTRY	44.0 DEGF	30.0	240.0		TD5039 EVAP EXH RE-ENTRY	183.2 DEGF	30.0	240.0
**						PW5051 H2O TK GN2 PRESS	28.5 PSI	-409.5	409
	PF5052 F-21 DIF PRSS EV 1	15.5 PSID	-409.5	409.5		PF5053 F-21 DIF PRSS EV 2	16.0 PSID	-409.5	409.5
	PW5054 H2O SUP PRSS TO EV	27.7 PSIA	-409.5	409.5		PW5055 H2O SUP PRSS TO EV	19.2 PSIA	-409.5	409.5
	PE5056 EVAP 1 CHMBR PRSS	2.17 TORR	-40.95	40.95		PE5057 EVAP 2 CHMBR PRSS	1.23 TORR	-40.95	40.95
**	PD5058 EXHT DUCT PRSS DP	0.10 TORR	-40.95	40.95		PD5065 EXHT DUCT PRSS DP	0.58 TORR	-40.95	40.
	PD5059 EXHT DUCT PRSS DP	0.04 TORR	-40.95	40.95		PD5066 EXHT DUCT PRSS DP	LLL TORR	-40.95	40.95
	PD5060 EXHT DUCT PRSS DP	0.14 TORR	-40.95	40.95		PD5067 EXHT DUCT PRSS DP	0.35 TORR	-40.95	40.95
	PD5061 EXHT DUCT PRSS	0.92 TORR	-40.95	40.95		PD5068 EXHT DUCT PRSS DP	0.39 TORR	-40.95	40.95
	PD5062 EXHT DUCT PRSS	1.00 TORR	-40.95	40.95		PD5069 EXHT DUCT PRSS DP	0.32 TORR	-40.95	40.95
	PD5063 EXHT DUCT PRSS	1.08 TORR	-40.95	40.95		PD5070 EXHT DUCT PRSS DP	0.04 TORR	-40.95	40.95
	PD5064 EXHT DUCT PRSS	0.043 TORR	-4.095	4.095		PD5071 EXHT DUCT PRSS DP	0.011 TORR	-4.095	4.095
**						FW5081 TOT H2O FLO TO EVP	12.1 PPH	-409.5	409
	FW5082 H2O FLO TO FL EVAP	0.0 PPH	-409.5	409.5		FW5083 H2O FLO TO FL EVAP	11.4 PPH	-409.5	409.5
						WT5091 H2O TANK WEIGHT	118.0 LBS	-409.5	409.5
**	HI5170 TOP OFF DUCT HTR 1	2.26 AMPS	-40.95	40.95		HI5172 TOP OFF DUCT HTR 3	1.53 AMPS	-40.95	40.
	HI5171 TOP OFF DUCT HTR 2	2.70 AMPS	-40.95	40.95		HI5173 TOP OFF DUCT HTR 4	2.14 AMPS	-40.95	40.95
	HI5174 R-ETY DT HTR PWR 1	0.86 AMPS	-40.95	40.95		HI5178 R-ETY DT HTR PWR 3	0.67 AMPS	-40.95	40.95
	HI5175 R-ETY DT HTR PWR 2	0.92 AMPS	-40.95	40.95					
**	HI5176 S S NOZZLE HTR	0.32 AMPS	-40.95	40.95		HI5177 S S NOZZLE HTR	0.32 AMPS	-40.95	40.
**	FM5643 HI FL TO PRI VALV	2764 PPH	- 4095	4095		FM5649 HI FLOW TO SEC PNL	2771 PPH	- 4095	40
						FM5660 F21 TOTAL FLOW	5.51 KPPH	-40.95	40.95

	-MID-	---DESCRIPTION----	---VALUE---	----LIMITS----		-MID-	---DESCRIPTION----	---VALUE---	----LIMITS----	
!	Z05201	INST HT RJCT EV 1	5.9 KBTU	-409.5 409.5		Z05202	INST HT RJCT EV 2	9.3 KBTU	-409.5 40	
						Z05203	INSTANT HEAT RJCT	15.2 KBTU	-409.5 409.5	
!	Z05211	TOT HT RJCT EVP 1	6.1 KBTU	-409.5 409.5		Z05212	TOT HT RJCT EVP 2	7.3 KBTU	-409.5 409	
						Z05213	TOT HT RJCT	13.4 KBTU	-409.5 409.5	
!	Z05221	TOT WATR FLW EV 1	9.2 LBS	-409.5 409.5		Z05222	TOT WATR FLW EV 2	8.1 LBS	-409.5 409	
						Zw5223	TOT WATR FLW	17.3 LBS	-409.5 409.5	
						Zw5224	WATR TNK DIFF WT.	14.8 LBS	-409.5 409.5	
!	ZE5231	SIG EVE TOT EVP 1	26.3 MIN	-409.5 409.5	*	ZE5232	SIG EVE TOT EVP 2	26.3 MIN	-409.5 409	
					*	ZE5234	TOTAL TEST TIME	45.7 MIN	-409.5 409.5	
	Z05241	AVG HT LOAD EVP 1A	8.0 KBTU	-409.5 409.5		Z05242	AVG HT LOAD EVP 2A	9.6 KBTU	-409.5 409.5	
						Z05243	AVG HT LOAD A	17.6 KBTU	-409.5 409.5	
!	Z05251	AVG HT LOAD EVP 1B	10.0 KBTU	-409.5 409.5		Z05252	AVG HT LOAD EVP 2B	8.6 KBTU	-409.5 409	
						Z05253	AVG HT LOAD B	18.7 KBTU	-409.5 409.5	
!	ZF5261	AVG WATR USE EV 1	12.1 LBSH	-409.5 409.5		ZF5262	AVG WATR USE EV 2	10.6 LBSH	-409.5 409	
						ZF5263	AVG WATR USE A	22.8 LBSH	-409.5 409.5	
						ZF5264	AVG WATR USE B	19.6 LBSH	-409.5 409.5	
!	ZH5271	AVG ENT CHNG EV 1	663 BTUP	- 4095 4095		ZH5272	AVG ENT CHNG EV 2	901 BTUP	- 4095 40	
						ZH5273	AVG ENTP CHNG A	776 BTUP	- 4095 4095	
						ZH5281	AVG ENTP CHNG B	904 BTUP	- 4095 4095	
!	ZT5301	MIN F-21 OUT TEM 1	40.9 DEGF	-409.5 409.5		ZT5302	MIN F-21 OUT TEM 2	41.2 DEGF	-409.5 409	
#	ZT5311	MAX F-21 OUT TEM 1	RRR DEGF	-409.5 409.5	#	ZT5312	MAX F-21 OUT TEM 2	RRR DEGF	-409.5 409.5	
!	Z05321	TP-OF DT HTR PWR 1	212.3 WATT	-409.5 409.5		Z05351	TP-OFF DUCT 1 AVG	15..9 DEGF	-409.5 409	
	Z05322	TP-OF DT HTR PWR 2	228.9 WATT	-409.5 409.5		Z05352	TP-OFF DUCT 2 AVG	167.2 DEGF	-409.5 409.5	
	Z05323	TP-OF DT HTR PWR 3	41.1 WATT	-409.5 409.5		Z05353	TP-OFF DUCT 3 AVG	132.3 DEGF	-409.5 409.5	
	Z05324	TP-OF DT HTR PWR 4	60.3 WATT	-409.5 409.5		Z05354	TP-OFF DUCT 4 AVG	150.6 DEGF	-409.5 409.5	
	Z05331	R-ETY DT HTR PWR 1	10.1 WATT	-409.5 409.5		Z05355	R-ETRY DUCT 1 AVG	48.7 DEGF	-409.5 409.5	
	Z05332	R-ETY DT HTR PWR 2	13.6 WATT	-409.5 409.5		Z05356	R-ETRY DUCT 2 AVG	73.8 DEGF	-409.5 409.5	
	Z05333	R-ETY DT HTR PWR 3	10.2 WATT	-409.5 409.5		Z05359	R-ETRY DUCT 3 AVG	52.9 DEGF	-409.5 409.5	
	ZN5341	S S NOZ HTR PWR	27.7 WATT	-409.5 409.5		ZN5357	SS NOZZLE 1 AVG	144.0 DEGF	-409.5 409.5	
	ZN5342	S S NOZ HTR PWR	27.7 WATT	-409.5 409.5		ZN5358	SS NOZZLE 2 AVG	118.3 DEGF	-409.5 409.5	
!	TM5603	MSFC ASPS TEMP 1	83.5 DEGF	-409.5 409.5		TM5604	MSFC ASPS TEMP 2	79.3 DEGF	-409.5 409	
#	TF5501	P FLO CONT VLV IN	LLL DEGF	-409.5 409.5	#	TF5506	S FLO CONT VLV IN	LLL DEGF	-409.5 409.5	
#	TF5528	P CON OUT MIX CH	UUU DEGF	-409.5 409.5	#	TF5530	S CON OUT MIX CH	UUU DEGF	-409.5 409.5	
#	TF5529	P CON OUT MIX CH	UUU DEGF	-409.5 409.5	#	TF5531	S CON OUT MIX CH	UUU DEGF	-409.5 409.5	
!	FM5643	HI FL TO PRI VALV	2764 PPH	- 4095 4095		FM5649	HI FLOW TO SEC PNL	2771 PPH	- 4095 40	

-MID-	-DESCRIPTION-	-VALUE-	-LIMITS-		-MID-	-DESCRIPTION-	-VALUE-	-LIMITS-	
TF5001	F-21 IN TO EVAP 1	56.5 DEGF	-409.5	409.5	TF5007	F-21 IN TO EVAP 2	56.1 DEGF	-409.5	409.5
TF5002	F-21 IN TO EVAP 1	55.2 DEGF	-409.5	409.5	TF5008	F-21 IN TO EVAP 2	56.0 DEGF	-409.5	409.5
TF5003	F-21 OUT OF EVAP 1	43.7 DEGF	-409.5	409.5	TF5009	F-21 OUT OF EVAP 2	41.5 DEGF	-409.5	409.5
TF5004	F-21 OUT OF EVAP 1	44.1 DEGF	-409.5	409.5	TF5010	F-21 OUT OF EVAP 2	41.5 DEGF	-409.5	409.5
TW5005	H2O IN TO EVAP 1	49.3 DEGF	-409.5	409.5	TW5011	H2O IN TO EVAP 2	49.9 DEGF	-409.5	409.5
TW5006	H2O IN TO EVAP 1	48.7 DEGF	-409.5	409.5	TW5012	H2O IN TO EVAP 2	49.5 DEGF	-409.5	409.5
##	T-5011 H2O IN TO EVAP 2	49.9 DEGF	-409.5	409.5		TD5017 EVAP EXH TOPOFF DT	164.0 DEGF	30.0	240
	TW5012 H2O IN TO EVAP 2	49.5 DEGF	-409.5	409.5		TD5018 EVAP EXH TOPOFF DT	63.7 DEGF	30.0	240.0
	TD5013 EVAP EXH TOPOFF DT	138.3 DEGF	30.0	240.0		TD5019 EVAP EXH TOPOFF DT	161.0 DEGF	30.0	240.0
	TD5014 EVAP EXH TOPOFF DT	116.4 DEGF	30.0	240.0		TD5020 EVAP EXH TOPOFF DT	144.5 DEGF	30.0	240.0
	TD5015 EVAP EXH TOPOFF DT	148.1 DEGF	30.0	240.0		TD5021 EVAP EXH TOPOFF DT	135.8 DEGF	30.0	240.0
	TD5016 EVAP EXH TOPOFF DT	161.0 DEGF	30.0	240.0		TD5022 EVAP EXH TOPOFF DT	130.4 DEGF	30.0	240.0
##	TD5023 EVAP RE-ENTRY DUCT	139.6 DEGF	30.0	240.0		TD5028 EVAP RE-ENTRY DUCT	48.3 DEGF	30.0	240
	TD5024 EVAP RE-ENTRY DUCT	159.7 DEGF	30.0	240.0		TD5029 EVAP RE-ENTRY DUCT	45.4 DEGF	30.0	240.0
	TD5025 EVAP RE-ENTRY DUCT	126.7 DEGF	30.0	240.0		TD5030 EVAP RE-ENTRY DUCT	52.4 DEGF	30.0	240.0
	TD5026 EVAP RE-ENTRY DUCT	115.1 DEGF	30.0	240.0		TD5031 EVAP RE-ENTRY DUCT	69.2 DEGF	30.0	240.0
	TD5027 EVAP RE-ENTRY DUCT	51.2 DEGF	30.0	240.0					
###	TD5032 EVAP EXH RE-ENTRY	74.8 DEGF	30.0	240.0		TD5036 EVAP EXH RE-ENTRY	80.3 DEGF	30.0	24
	TD5033 EVAP EXH RE-ENTRY	65.1 DEGF	30.0	240.0		TD5037 EVAP EXH RE-ENTRY	214.9 DEGF	30.0	240.0
	TD5034 EVAP EXH RE-ENTRY	49.7 DEGF	30.0	240.0		TD5038 EVAP EXH RE-ENTRY	210.0 DEGF	30.0	240.0
	TD5035 EVAP EXH RE-ENTRY	44.0 DEGF	30.0	240.0		TD5039 EVAP EXH RE-ENTRY	196.4 DEGF	30.0	240.0
##						PN5051 H2O TK GN2 PRESS	28.5 PSI	-409.5	409
	PF5052 F-21 DIF PRSS EV 1	10.3 PSID	-409.5	409.5		PF5053 F-21 DIF PRSS EV 2	10.7 PSID	-409.5	409.5
	PW5054 H2O SUP PRSS TO EV	24.7 PSIA	-409.5	409.5		PW5055 H2O SUP PRSS TO EV	29.1 PSIA	-409.5	409.5
	PE5056 EVAP 1 CHMBR PRSS	1.59 TORR	-40.95	40.95		PE5057 EVAP 2 CHMBR PRSS	1.14 TORR	-40.95	40.95
###	PD5054 EXHT DUCT PRSS DP	UUU TORR	-40.95	40.95		PD5065 EXHT DUCT PRSS DP	0.86 TORR	-40.95	40.
	PD5059 EXHT DUCT PRSS DP	0.80 TORR	-40.95	40.95	#	PD5066 EXHT DUCT PRSS DP	LLL TORR	-40.95	40.95
#	PD5060 EXHT DUCT PRSS DP	UUU TORR	-40.95	40.95		PD5067 EXHT DUCT PRSS DP	0.31 TORR	-40.95	40.95
	PD5061 EXHT DUCT PRSS	0.88 TORR	-40.95	40.95		PD5068 EXHT DUCT PRSS DP	0.25 TORR	-40.95	40.95
	PD5062 EXHT DUCT PRSS	0.53 TORR	-40.95	40.95		PD5069 EXHT DUCT PRSS DP	0.60 TORR	-40.95	40.95
	PD5063 EXHT DUCT PRSS	0.53 TORR	-40.95	40.95		PD5070 EXHT DUCT PRSS DP	0.04 TORR	-40.95	40.95
	PD5064 EXHT DUCT PRSS	0.055 TORR	-4.095	4.095		PD5071 EXHT DUCT PRSS DP	0.010 TORR	-4.095	4.095
##						FW5081 TOT H2O FLO TO EVP	0.0 PPH	-409.5	409
	FW5082 H2O FLO TO FL EVAP	9.5 PPH	-409.5	409.5		FW5083 H2O FLO TO FL EVAP	0.0 PPH	-409.5	409.5
						WT5091 H2O TANK WEIGHT	102.4 LBS	-409.5	409.5
#	HI5170 TOP OFF DUCT HTR 1	2.26 AMPS	-40.95	40.95		HI5172 TOP OFF DUCT HTR 3	1.41 AMPS	-40.95	40.9
	HI5171 TOP OFF DUCT HTR 2	2.68 AMPS	-40.95	40.95		HI5173 TOP OFF DUCT HTR 4	2.10 AMPS	-40.95	40.95
##	HI5174 R-ETY DT HTR PWR 1	0.86 AMPS	-40.95	40.95		HI5178 R-ETY DT HTR PWR 3	0.67 AMPS	-40.95	40.
	HI5175 R-ETY DT HTR PWR 2	0.92 AMPS	-40.95	40.95					
##	HI5176 S S NOZZLE HTR	0.32 AMPS	-40.95	40.95		HI5177 S S NOZZLE HTR	0.32 AMPS	-40.95	40.
##	FW5643 HI FL TO PRI VALV	2251 PPH	-4095	4095		FW5649 HI FLOW TO SEC PNL	2227 PPH	-4095	40
						FW5660 F21 TOTAL FLOW	4.51 KPPH	-40.95	40.95

T.P. 13

PAGE 00 PSD [VACUUM SCENE (0016) CHAMBER A DAY 113, 22 HRS, 20 MIN, 00 SEC

-MID-	-DESCRIPTION-	-VALUE-	-LIMITS-	-MID-	-DESCRIPTION-	-VALUE-	-LIMITS-
‡‡ ZD5201	INST 1 DUCT EV 1	6.6 KBTU	-409.5 409.5	ZD5202	INST HI DUCT EV 2	6.6 KBTU	-409.5 409
				ZD5203	INSTANT HEAT DUCT	15.1 KBTU	-409.5 409.5
‡‡ ZD5211	TOT HT DUCT EVP 1	5.6 KBTU	-409.5 409.5	ZD5212	TOT HT DUCT EVP 2	6.6 KBTU	-409.5 409
				ZD5213	TOT HT DUCT	12.2 KBTU	-409.5 409.5
‡‡ ZW5221	TOT WATR FLW EV 1	8.8 LBS	-409.5 409.5	ZW5222	TOT WATR FLW EV 2	7.3 LBS	-409.5 409
				ZW5223	TOT WATR FLW	16.1 LBS	-409.5 409.5
				ZW5224	WATR TNK DIFF WT.	13.0 LBS	-409.5 409.5
‡‡* ZE5231	SIG EVE TOT EVP 1	25.1 MIN	-409.5 409.5	* ZE5232	SIG EVE TOT EVP 2	25.1 MIN	-409.5 409
				* ZE5234	TOTAL TEST TIME	49.8 MIN	-409.5 409.5
‡‡ ZD5241	AVG HT LOAD EVP 1A	6.7 KBTU	-409.5 409.5	ZD5242	AVG HT LOAD EVP 2A	7.9 KBTU	-409.5 409
				ZD5243	AVG HT LOAD A	14.7 KBTU	-409.5 409.5
‡‡ ZD5251	AVG HT LOAD EVP 1B	8.2 KBTU	-409.5 409.5	ZD5252	AVG HT LOAD EVP 2B	7.4 KBTU	-409.5 409
				ZD5253	AVG HT LOAD B	15.7 KBTU	-409.5 409.5
‡‡ ZF5261	AVG WATR USE EV 1	10.6 LBSH	-409.5 409.5	ZF5262	AVG WATR USE EV 2	8.7 LBSH	-409.5 409
				ZF5263	AVG WATR USE A	19.3 LBSH	-409.5 409.5
				ZF5264	AVG WATR USE B	15.7 LBSH	-409.5 409.5
‡‡ ZH5271	AVG ENT CHNG EV 1	635 BTUP	- 4095 4095	ZH5272	AVG ENT CHNG EV 2	908 BTUP	- 4095 40
				ZH5273	AVG ENTP CHNG A	756 BTUP	- 4095 4095
				ZH5281	AVG ENTP CHNG B	938 BTUP	- 4095 4095
‡‡ ZT5301	MIN F-21 OUT TEM 1	38.4 DEGF	-409.5 409.5	ZT5302	MIN F-21 OUT TEM 2	38.8 DEGF	-409.5 409
# ZT5311	MAX F-21 OUT TEM 1	RNR DEGF	-409.5 409.5	# ZT5312	MAX F-21 OUT TEM 2	RNR DEGF	-409.5 409.5
‡‡‡ ZD5321	TP-OFF DT HTR PWR 1	213.3 WATT	-409.5 409.5	ZD5351	TP-OFF DUCT 1 AVG	174.3 DEGF	-409.5 40
ZD5322	TP-OF DT HTR PWR 2	227.6 WATT	-409.5 409.5	ZD5352	TP-OFF DUCT 2 AVG	180.4 DEGF	-409.5 409.5
ZD5323	TP-OF DT HTR PWR 3	40.6 WATT	-409.5 409.5	ZD5353	TP-OFF DUCT 3 AVG	142.5 DEGF	-409.5 409.5
ZD5324	TP-OF DT HTR PWR 4	61.0 WATT	-409.5 409.5	ZD5354	TP-OFF DUCT 4 AVG	162.7 DEGF	-409.5 409.5
ZD5331	R-ETY DT HTR PWR 1	10.5 WATT	-409.5 409.5	ZD5355	R-ETHY DUCT 1 AVG	69.4 DEGF	-409.5 409.5
ZD5332	R-ETY DT HTR PWR 2	13.2 WATT	-409.5 409.5	ZD5356	R-ETHY DUCT 2 AVG	74.8 DEGF	-409.5 409.5
ZD5333	R-ETY DT HTR PWR 3	10.0 WATT	-409.5 409.5	ZD5359	R-ETHY DUCT 3 AVG	53.0 DEGF	-409.5 409.5
ZN5341	S S NOZ HTR PWR	27.7 WATT	-409.5 409.5	ZN5357	SS NOZZLE 1 AVG	149.7 DEGF	-409.5 409.5
ZN5342	S S NOZ HTR PWR	27.7 WATT	-409.5 409.5	ZN5358	SS NOZZLE 2 AVG	120.0 DEGF	-409.5 409.5
‡‡ TM5403	MSFC ASPS TEMP 1	84.8 DEGF	-409.5 409.5	TM5404	MSFC ASPS TEMP 2	80.7 DEGF	-409.5 409
# TF5501	P FLO CONT VLV IN	LLL DEGF	-409.5 409.5	# TF5506	S FLO CONT VLV IN	LLL DEGF	-409.5 409.5
# TF5529	P CON OUT MIX CH	UUU DEGF	-409.5 409.5	# TF5530	S CON OUT MIX CH	UUU DEGF	-409.5 409.5
# TF5529	P CON OUT MIX CH	UUU DEGF	-409.5 409.5	# TF5531	S CON OUT MIX CH	UUU DEGF	-409.5 409.5
FM5643	HI FL TO PRI VALV	2251 PPH	- 4095 4095	FM5649	HI FLOW TO SEC PNL	2227 PPH	- 4095 4095

END OF 10 of 14

PAGE 01 CSD IR/EVAP SC002 (D0095) CHAMBER A DA 113, 23 HRS, 35 MIN, 43 SEC

	-MID-	---DESCRIPTION----	---VALUE---	----LIMITS----		-MID-	---DESCRIPTION----	---VALUE---	----LIMITS----	
!	TF5001	F-21 IN TO EVAP 1	45.0 DEGF	-409.5 409.5		TF5007	F-21 IN TO EVAP 2	44.8 DEGF	-409.5 409	
	TF5002	F-21 IN TO EVAP 1	44.1 DEGF	-409.5 409.5		TF5008	F-21 IN TO EVAP 2	45.8 DEGF	-409.5 409.5	
	TF5003	F-21 OUT OF EVAP 1	41.6 DEGF	-409.5 409.5		TF5009	F-21 OUT OF EVAP 2	41.4 DEGF	-409.5 409.5	
	TF5004	F-21 OUT OF EVAP 1	41.6 DEGF	-409.5 409.5		TF5010	F-21 OUT OF EVAP 2	41.4 DEGF	-409.5 409.5	
	TW5005	H2O IN TO EVAP 1	48.3 DEGF	-409.5 409.5		TW5011	H2O IN TO EVAP 2	49.9 DEGF	-409.5 409.5	
	TW5006	H2O IN TO EVAP 1	48.7 DEGF	-409.5 409.5		TW5012	H2O IN TO EVAP 2	49.5 DEGF	-409.5 409.5	
!	TW5011	H2O IN TO EVAP 2	49.9 DEGF	-409.5 409.5		TD5017	EVAP EXH TOPOFF DT	203.9 DEGF	30.0 240	
	TW5012	H2O IN TO EVAP 2	49.5 DEGF	-409.5 409.5		TD5018	EVAP EXH TOPOFF DT	60.9 DEGF	30.0 240.0	
	TD5013	EVAP EXH TOPOFF DT	144.8 DEGF	30.0 240.0		TD5019	EVAP EXH TOPOFF DT	180.8 DEGF	30.0 240.0	
	TD5014	EVAP EXH TOPOFF DT	139.6 DEGF	30.0 240.0		TD5020	EVAP EXH TOPOFF DT	156.0 DEGF	30.0 240.0	
	TD5015	EVAP EXH TOPOFF DT	219.5 DEGF	30.0 240.0		TD5021	EVAP EXH TOPOFF DT	151.0 DEGF	30.0 240.0	
	TD5016	EVAP EXH TOPOFF DT	202.7 DEGF	30.0 240.0		TD5022	EVAP EXH TOPOFF DT	143.5 DEGF	30.0 240.0	
!	TD5023	EVAP RE-ENTRY DUCT	147.3 DEGF	30.0 240.0		TD5028	EVAP RE-ENTRY DUCT	48.3 DEGF	30.0 240	
	TD5024	EVAP RE-ENTRY DUCT	164.4 DEGF	30.0 240.0		TD5029	EVAP RE-ENTRY DUCT	45.4 DEGF	30.0 240.0	
	TD5025	EVAP RE-ENTRY DUCT	126.7 DEGF	30.0 240.0		TD5030	EVAP RE-ENTRY DUCT	54.0 DEGF	30.0 240.0	
	TD5026	EVAP RE-ENTRY DUCT	113.8 DEGF	30.0 240.0		TD5031	EVAP RE-ENTRY DUCT	70.6 DEGF	30.0 240.0	
	TD5027	EVAP RE-ENTRY DUCT	49.7 DEGF	30.0 240.0						
	TD5032	EVAP EXH RE-ENTRY	74.8 DEGF	30.0 240.0		TD5036	EVAP EXH RE-ENTRY	80.3 DEGF	30.0 240.0	
	TD5033	EVAP EXH RE-ENTRY	66.5 DEGF	30.0 240.0		TD5037	EVAP EXH RE-ENTRY	225.3 DEGF	30.0 240.0	
	TD5034	EVAP EXH RE-ENTRY	51.2 DEGF	30.0 240.0		TD5038	EVAP EXH RE-ENTRY	239.4 DEGF	30.0 240.0	
	TD5035	EVAP EXH RE-ENTRY	45.4 DEGF	30.0 240.0		TD5039	EVAP EXH RE-ENTRY	228.0 DEGF	30.0 240.0	
!						PN5051	H2O TK GN2 PRESS	28.5 PSI	-409.5 409	
	PF5052	F-21 DIF PRSS FV 1	10.2 PSID	-409.5 409.5		PF5053	F-21 DIF PRSS FV 2	10.8 PSID	-409.5 409.5	
	PW5054	H2O SUP PRSS TO EV	28.9 PSIA	-409.5 409.5		PW5055	H2O SUP PRSS TO EV	29.1 PSIA	-409.5 409.5	
	PE5056	EVAP 1 CHMBR PRSS	0.77 TORR	-40.95 40.95		PE5057	EVAP 2 CHMBR PRSS	0.80 TORR	-40.95 40.95	
!	PD5058	EXHT DUCT PRSS DP	0.53 TORR	-40.95 40.95		PD5065	EXHT DUCT PRSS DP	0.69 TORR	-40.95 40.	
	PD5059	EXHT DUCT PRSS DP	0.10 TORR	-40.95 40.95	#	PD5066	EXHT DUCT PRSS DP	LLL TORR	-40.95 40.95	
	PD5060	EXHT DUCT PRSS DP	0.18 TORR	-40.95 40.95		PD5067	EXHT DUCT PRSS DP	0.49 TORR	-40.95 40.95	
	PD5061	EXHT DUCT PRSS	0.41 TORR	-40.95 40.95		PD5068	EXHT DUCT PRSS DP	0.22 TORR	-40.95 40.95	
	PD5062	EXHT DUCT PRSS	0.26 TORR	-40.95 40.95		PD5069	EXHT DUCT PRSS DP	0.12 TORR	-40.95 40.95	
	PD5063	EXHT DUCT PRSS	0.22 TORR	-40.95 40.95	#	PD5070	EXHT DUCT PRSS DP	LLL TORR	-40.95 40.95	
	PD5064	EXHT DUCT PRSS	0.037 TORR	-4.095 4.095		PD5071	EXHT DUCT PRSS DP	0.010 TORR	-4.095 4.095	
!	FW5082	H2O FLO TO FL EVAP	0.0 PPH	-409.5 409.5		FW5081	TOT H2O FLO TO EVP	103.0 PPH	-409.5 409.	
						FW5083	H2O FLO TO FL EVAP	0.0 PPH	-409.5 409.5	
						WT5091	H2O TANK WEIGHT	92.5 LBS	-409.5 409.5	
!	HI5170	TOP OFF DUCT HTR 1	1.78 AMPS	-40.95 40.95		HI5172	TOP OFF DUCT HTR 3	1.51 AMPS	-40.95 40.	
	HI5171	TOP OFF DUCT HTR 2	2.13 AMPS	-40.95 0.95		HI5173	TOP OFF DUCT HTR 4	2.08 AMPS	-40.95 40.95	
!	HI5174	R-ETY DT HTR PWR 1	0.84 AMPS	-40.95 40.95		HI5178	R-ETY DT HTR PWR 3	0.87 AMPS	-40.95 40.	
	HI5175	R-ETY DT HTR PWR 2	0.92 AMPS	-40.95 40.95						
!	HI5176	S S NOZZLE HTR	0.32 AMPS	-40.95 40.95		HI5177	S S NOZZLE HTR	0.32 AMPS	-40.95 40.	
	FW5643	HI FL TO PRI VALV	2251 PPH	- 4095 4095		FW5649	HI FLOW TO SEC PNL	2252 PPH	- 4095 4095	
						FW5460	F21 TOTAL FLOW	4.48 KPPH	-40.95 40.95	

MID	DESCRIPTION	VALUE	LIMITS	MID	DESCRIPTION	VALUE	LIMITS
‡‡	ZQ5201 INST HT RJCT EV 1	1.4 KBTU	-409.5 409.5	ZQ5202	INST HT RJCT EV 2	2.3 KBTU	-409.5 409
				ZQ5203	INSTANT HEAT RJCT	3.7 KBTU	-409.5 409.5
‡‡	ZQ5211 TOT HT RJCT EVP 1	1.4 KBTU	-409.5 409.5	ZQ5212	TOT HT RJCT EVP 2	2.5 KBTU	-409.5 409
				ZQ5213	TOT HT RJCT	3.9 KBTU	-409.5 409.5
‡‡	ZW5221 TOT WATR FLW EV 1	4.5 LBS	-409.5 409.5	ZW5222	TOT WATR FLW EV 2	3.3 LBS	-409.5 409
				ZW5223	TOT WATR FLW	7.9 LBS	-409.5 409.5
				ZW5224	WATR TNK DIFF WT.	5.9 LBS	-409.5 409.5
‡‡*	ZE5231 SIG EVE TOT EVP 1	10.2 MIN	-409.5 409.5	* ZE5232	SIG EVE TOT EVP 2	10.2 MIN	-409.5 409
				* ZE5234	TOTAL TEST TIME	59.8 MIN	-409.5 409.5
‡‡	ZQ5241 AVG HT LOAD EVP 1A	1.4 KBTU	-409.5 409.5	ZQ5242	AVG HT LOAD EVP 2A	2.6 KBTU	-409.5 409
				ZQ5243	AVG HT LOAD A	3.9 KBTU	-409.5 409.5
‡‡	ZQ5251 AVG HT LOAD EVP 1B	2.6 KBTU	-409.5 409.5	ZQ5252	AVG HT LOAD EVP 2B	2.6 KBTU	-409.5 409
				ZQ5253	AVG HT LOAD B	5.2 KBTU	-409.5 409.5
	ZF5241 AVG WATR USE EV 1	4.5 LBSM	-409.5 409.5	ZF5262	AVG WATR USE EV 2	3.4 LBSM	-409.5 409.5
				ZF5263	AVG WATR USE A	7.9 LBSM	-409.5 409.5
				ZF5264	AVG WATR USE B	5.9 LBSM	-409.5 409.5
‡‡	ZH5271 AVG ENT CHNG EV 1	299 BTUP	- 4095 4095	ZH5272	AVG ENT CHNG EV 2	762 BTUP	- 4095 40
				ZH5273	AVG ENTP CHNG A	496 BTUP	- 4095 4095
				ZH5281	AVG ENTP CHNG B	661 BTUP	- 4095 4095
‡‡	ZT5301 MIN F-21 OUT TEM 1	38.8 DEGF	-409.5 409.5	ZT5302	MIN F-21 OUT TEM 2	34.9 DEGF	-409.5 409
#	ZT5311 MAX F-21 OUT TEM 1	RHR DEGF	-409.5 409.5	# ZT5312	MAX F-21 OUT TEM 2	RHR DEGF	-409.5 409.5
‡‡‡	ZQ5321 TP-OF DT HTR PWR 1	135.1 WATT	-409.5 409.5	ZQ5351	TP-OFF DUCT 1 AVG	202.6 DEGF	-409.5 40
	ZQ5322 TP-OF DT HTR PWR 2	143.5 WATT	-409.5 409.5	ZQ5352	TP-OFF DUCT 2 AVG	196.5 DEGF	-409.5 409.5
	ZQ5323 TP-OF DT HTR PWR 3	41.0 WATT	-409.5 409.5	ZQ5353	TP-OFF DUCT 3 AVG	165.7 DEGF	-409.5 409.5
	ZQ5324 TP-OF DT HTR PWR 4	60.9 WATT	-409.5 409.5	ZQ5354	TP-OFF DUCT 4 AVG	195.8 DEGF	-409.5 409.5
	ZQ5331 R-ETY DT HTR PWR 1	10.1 WATT	-409.5 409.5	ZQ5355	R-ETRY DUCT 1 AVG	49.4 DEGF	-409.5 409.5
	ZQ5332 R-ETY DT HTR PWR 2	13.2 WATT	-409.5 409.5	ZQ5356	R-ETRY DUCT 2 AVG	74.8 DEGF	-409.5 409.5
	ZQ5333 R-ETY DT HTR PWR 3	10.3 WATT	-409.5 409.5	ZQ5359	R-ETRY DUCT 3 AVG	54.4 DEGF	-409.5 409.5
	ZN5341 S S NOZ HTR PWR	27.7 WATT	-409.5 409.5	ZN5357	SS NOZZLE 1 AVG	157.9 DEGF	-409.5 409.5
	ZN5342 S S NOZ HTR PWR	27.7 WATT	-409.5 409.5	ZN5358	SS NOZZLE 2 AVG	120.3 DEGF	-409.5 409.5
‡‡	TM5403 MSFC ASPS TEMP 1	84.8 DEGF	-409.5 409.5	TM5404	MSFC ASPS TEMP 2	80.7 DEGF	-409.5 409
#	TF5501 P FLO CONT VLV IN	LLL DEGF	-409.5 409.5	TF5506	S FLO CONT VLV IN	22.4 DEGF	-409.5 409.5
#	TF5529 P CON OUT MIX CH	UUU DEGF	-409.5 409.5	# TF5530	S CON OUT MIX CH	UUU DEGF	-409.5 409.5
#	TF5559 P CON OUT MIX CH	UUU DEGF	-409.5 409.5	# TF5531	S CON OUT MIX CH	UUU DEGF	-409.5 409.5
	FM5643 HI FL TO PRI VALV	2251 PPH	- 4095 4095	FM5649	HI FLOW TO SEC PNL	2252 PPH	- 4095 4095

ENCLOSURE NO. 15

PAGE A ECS TO/EVAP SCOOP (0005) CHAMBER A ** 114: 01 HRS: 10 MIN: 07 SEC

-MID-	---DESCRIPTION----	---VALUE---	---LIMITS----		-MID-	---DESCRIPTION----	---VALUE---	----LIMITS----	
**	TF5001 F-21 IN TO EVAP 1	45.0 DEGF	-409.5	409.5		TF5007 F-21 IN TO EVAP 2	45.0 DEGF	-409.5	409
	TF5002 F-21 IN TO EVAP 1	43.3 DEGF	-409.5	409.5		TF5008 F-21 IN TO EVAP 2	45.8 DEGF	-409.5	409.5
	TF5003 F-21 OUT OF EVAP 1	41.9 DEGF	-409.5	409.5		TF5009 F-21 OUT OF EVAP 2	41.4 DEGF	-409.5	409.5
	TF5004 F-21 OUT OF EVAP 1	42.3 DEGF	-409.5	409.5		TF5010 F-21 OUT OF EVAP 2	41.4 DEGF	-409.5	409.5
	TW5005 H2O IN TO EVAP 1	48.3 DEGF	-409.	409.5		TW5011 H2O IN TO EVAP 2	49.0 DEGF	-409.5	409.5
	TW5006 H2O IN TO EVAP 1	48.7 DEGF	-409.5	409.5		TW5012 H2O IN TO EVAP 2	49.5 DEGF	-409.5	409.5
**	TW5011 H2O IN TO EVAP 2	49.9 DEGF	-409.5	409.5		TD5017 EVAP EXH TOPOFF DT	218.3 DEGF	30.0	24
	TW5012 H2O IN TO EVAP 2	49.5 DEGF	-409.5	409.5		TD5018 EVAP EXH TOPOFF DT	66.5 DEGF	30.0	240.0
	TD5013 EVAP EXH TOPOFF DT	142.2 DEGF	30.0	240.0		TD5019 EVAP EXH TOPOFF DT	202.7 DEGF	30.0	240.0
	TD5014 EVAP EXH TOPOFF DT	121.3 DEGF	30.0	240.0		TD5020 EVAP EXH TOPOFF DT	166.0 DEGF	30.0	240.0
	TD5015 EVAP EXH TOPOFF DT	220.0 DEGF	30.0	240.0		TD5021 EVAP EXH TOPOFF DT	174.7 DEGF	30.0	240.0
	TD5016 EVAP EXH TOPOFF DT	205.1 DEGF	30.0	240.0		TD5022 EVAP EXH TOPOFF DT	161.0 DEGF	30.0	240.0
**	TD5023 EVAP RE-ENTRY DUCT	158.5 DEGF	30.0	240.0		TD5028 EVAP RE-ENTRY DUCT	48.7 DEGF	30.0	240
	TD5024 EVAP RE-ENTRY DUCT	178.4 DEGF	30.0	240.0		TD5029 EVAP RE-ENTRY DUCT	46.9 DEGF	30.0	240.0
	TD5025 EVAP RE-ENTRY DUCT	135.8 DEGF	30.0	240.0		TD5030 EVAP RE-ENTRY DUCT	55.4 DEGF	30.0	240.0
	TD5026 EVAP RE-ENTRY DUCT	121.5 DEGF	30.0	240.0		TD5031 EVAP RE-ENTRY DUCT	72.0 DEGF	30.0	240.0
	TD5027 EVAP RE-ENTRY DUCT	51.2 DEGF	30.0	240.0					
	TD5032 EVAP EXH RE-ENTRY	77.5 DEGF	30.0	240.0		TD5036 EVAP EXH RE-ENTRY	83.0 DEGF	30.0	240.0
	TD5033 EVAP EXH RE-ENTRY	67.8 DEGF	30.0	240.0		TD5037 EVAP EXH RE-ENTRY	224.2 DEGF	30.0	240.0
	TD5034 EVAP EXH RE-ENTRY	52.6 DEGF	30.0	240.0		TD5038 EVAP EXH RE-ENTRY	228.9 DEGF	30.0	240.0
	TD5035 EVAP EXH RE-ENTRY	45.4 DEGF	30.0	240.0		TD5039 EVAP EXH RE-ENTRY	227.7 DEGF	30.0	240.0
**						PN5051 H2O TK GN2 PRESS	28.4 PSI	-409.5	409
	PF5052 F-21 DIF PRSS EV 1	15.1 PSID	-409.5	409.5		PF5053 F-21 DIF PRSS EV 2	15.9 PSID	-409.5	409.5
	PN5054 H2O SUP PRSS TO EV	26.3 PSIA	-409.5	409.5		PN5055 H2O SUP PRSS TO EV	27.9 PSIA	-409.5	409.5
	PE5056 EVAP 1 CHMBR PRSS	1.04 TORR	-40.95	40.95		PE5057 EVAP 2 CHMBR PRSS	0.69 TORR	-40.95	40.95
**	PD5058 EXHT DUCT PRSS DP	0.31 TORR	-40.95	40.95		PD5065 EXHT DUCT PRSS DP	0.49 TORR	-40.95	40.
	PD5059 EXHT DUCT PRSS DP	0.03 TORR	-40.95	40.95		PD5066 EXHT DUCT PRSS DP	LLL TORR	-40.95	40.95
	PD5060 EXHT DUCT PRSS DP	0.15 TORR	-40.95	40.95		PD5067 EXHT DUCT PRSS DP	0.42 TORR	-40.95	40.95
	PD5061 EXHT DUCT PRSS	0.41 TORR	-40.95	40.95		PD5068 EXHT DUCT PRSS DP	0.27 TORR	-40.95	40.95
	PD5062 EXHT DUCT PRSS	0.41 TORR	-40.95	40.95		PD5069 EXHT DUCT PRSS DP	0.49 TORR	-40.95	40.95
	PD5063 EXHT DUCT PRSS	0.37 TORR	-40.95	40.95		PD5070 EXHT DUCT PRSS DP	0.01 TORR	-40.95	40.95
	PD5064 EXHT DUCT PRSS	0.021 TORR	-4.095	4.095		PD5071 EXHT DUCT PRSS DP	0.000 TORR	-4.095	4.095
**						FW5081 TOT H2O FLO TO EVP	13.0 PPH	-409.5	409
	FW5082 H2O FLO TO FL EVAP	13.2 PPH	-409.5	409.5		FW5083 H2O FLO TO FL EVAP	0.0 PPH	-409.5	409.5
						WT5091 H2O TANK WEIGHT	83.6 LBS	-409.5	409.5
**	HI5170 TOP OFF DUCT HTR 1	1.77 AMPS	-40.95	40.95		HI5172 TOP OFF DUCT HTR 3	1.47 AMPS	-40.95	40.
	HI5171 TOP OFF DUCT HTR 2	2.15 AMPS	-40.95	40.95		HI5173 TOP OFF DUCT HTR 4	2.02 AMPS	-40.95	40.95
**	HI5174 R-ETY DT HTR PWR 1	0.96 AMPS	-40.95	40.95		HI5178 R-ETY DT HTR PWR 3	0.67 AMPS	-40.95	40.
	HI5175 R-ETY DT HTR PWR 2	0.92 AMPS	-40.95	40.95					
	HI5176 S S NOZZLE HTR	0.32 AMPS	-40.95	40.95		HI5177 S S NOZZLE HTR	0.32 AMPS	-40.95	40.95
**	FW5643 HI FL TO PRI VALV	2751 PPH	- 4095	4095		FW5649 HI FLOW TO SEC PNL	2759 PPH	- 4095	40
						FW5660 F21 TOTAL FLOW	5.51 KPPH	-40.95	40.95

	-MID-	---DESCRIPTION----	---VALUE---	----LIMITS----	-MID-	---DESCRIPTION----	---VALUE---	----LIMITS----
‡‡	Z05201	INST HT RJCT EV 1	0.9 KBTU	-409.5 409.5	Z05202	INST HT RJCT EV 2	2.6 KBTU	-409.5 409
					Z05203	INSTANT HEAT RJCT	3.5 KBTU	-409.5 409.5
‡‡	Z05211	TOT HT RJCT EVP 1	1.2 KBTU	-409.5 409.5	Z05212	TOT HT RJCT EVP 2	2.9 KBTU	-409.5 409
					Z05213	TOT HT RJCT	4.2 KBTU	-409.5 409.5
‡‡	ZW5221	TOT WATR FLW EV 1	5.4 LBS	-409.5 409.5	ZW5222	TOT WATR FLW EV 2	4.1 LBS	-409.5 409
					ZW5223	TOT WATR FLW	9.5 LBS	-409.5 409.5
					ZW5224	WATR TNK DIFF WT.	5.9 LBS	-409.5 409.5
‡‡*	ZE5231	SIG EVE TOT EVP 1	13.0 MIN	-409.5 409.5	* ZE5232	SIG EVE TOT EVP 2	13.0 MIN	-409.5 409
					* ZE5234	TOTAL TEST TIME	69.5 MIN	-409.5 409.5
‡‡	Z05241	AVG HT LOAD EVP 1A	1.1 KBTU	-409.5 409.5	Z05242	AVG HT LOAD EVP 2A	2.5 KBTU	-409.5 409
					Z05243	AVG HT LOAD A	3.6 KBTU	-409.5 409.5
‡‡	Z05251	AVG HT LOAD EVP 1B	2.9 KBTU	-409.5 409.5	Z05252	AVG HT LOAD EVP 2B	2.8 KBTU	-409.5 409
					Z05253	AVG HT LOAD B	5.7 KBTU	-409.5 409.5
‡‡	ZF5261	AVG WATR USE EV 1	4.6 LBSH	-409.5 409.5	ZF5262	AVG WATR USE EV 2	3.5 LBSH	-409.5 409
					ZF5263	AVG WATR USE A	8.2 LBSH	-409.5 409.5
					ZF5264	AVG WATR USE B	5.1 LBSH	-409.5 409.5
‡‡	ZH5271	AVG ENT CHNG EV 1	228 BTUP	- 4095 4095	ZH5272	AVG ENT CHNG EV 2	712 BTUP	- 4095 40
					ZH5273	AVG ENTP CHNG A	438 BTUP	- 4095 4095
					ZH5281	AVG ENTP CHNG B	704 BTUP	- 4095 4095
	ZT5301	MIN F-21 OUT TEM 1	39.3 DEGF	-409.5 409.5	ZT5302	MIN F-21 OUT TEM 2	38.8 DEGF	-409.5 409.5
#	ZT5311	MAX F-21 OUT TEM 1	RRR DEGF	-409.5 409.5	# ZT5312	MAX F-21 OUT TEM 2	RRR DEGF	-409.5 409.5
‡‡‡	Z05321	TP-OF DT HTR PWR 1	134.6 WATT	-409.5 409.5	Z05351	TP-OFF DUCT 1 AVG	192.7 DEGF	-409.5 40
	Z05322	TP-OF DT HTR PWR 2	146.6 WATT	-409.5 409.5	Z05352	TP-OFF DUCT 2 AVG	195.3 DEGF	-409.5 409.5
	Z05323	TP-OF DT HTR PWR 3	41.2 WATT	-409.5 409.5	Z05353	TP-OFF DUCT 3 AVG	180.7 DEGF	-409.5 409.5
	Z05324	TP-OF DT HTR PWR 4	60.7 WATT	-409.5 409.5	Z05354	TP-OFF DUCT 4 AVG	209.1 DEGF	-409.5 409.5
	Z05331	R-ETY DT HTR PWR 1	10.1 WATT	-409.5 409.5	Z05355	R-ETRY DUCT 1 AVG	50.8 DEGF	-409.5 409.5
	Z05332	R-ETY DT HTR PWR 2	13.2 WATT	-409.5 409.5	Z05356	R-ETRY DUCT 2 AVG	78.0 DEGF	-409.5 409.5
	Z05333	R-ETY DT HTR PWR 3	10.3 WATT	-409.5 409.5	Z05357	R-ETRY DUCT 3 AVG	55.3 DEGF	-409.5 409.5
	ZW5341	S S NOZ HTR PWR	27.7 WATT	-409.5 409.5	ZW5357	SS NOZZLE 1 AVG	169.1 DEGF	-409.5 409.5
	ZW5342	S S NOZ HTR PWR	27.7 WATT	-409.5 409.5	ZW5358	SS NOZZLE 2 AVG	128.7 DEGF	-409.5 409.5
‡‡	TM5403	MSFC ASPS TEMP 1	82.1 DEGF	-409.5 409.5	TM5404	MSFC ASPS TEMP 2	79.3 DEGF	-409.5 409
#	TF5501	P FLO CONT VLV IN	LLL DEGF	-409.5 409.5	# TF5506	S FLO CONT VLV IN	LLL DEGF	-409.5 409.5
#	TF5528	P CON OUT MIX CH	UUU DEGF	-409.5 409.5	# TF5530	S CON OUT MIX CH	UUU DEGF	-409.5 409.5
#	TF5529	P CON OUT MIX CH	UUU DEGF	-409.5 409.5	# TF5531	S CON OUT MIX CH	UUU DEGF	-409.5 409.5
‡‡	FM5643	HI FL TO PRI VALV	2751 PPH	- 4095 4095	FM5649	HI FLOW TO SEC PNL	2759 PPH	- 4095 40

END OF T.P. 16

-MID-	---DESCRIPTION----	---VALUE---	----LIMITS----		-MID-	---DESCRIPTION----	---VALUE---	----LIMITS----	
TF5001	F-21 IN TO EVAP 1	45.0 DEGF	-409.5	409.5	TF5007	F-21 IN TO EVAP 2	45.4 DEGF	-409.5	409.5
TF5002	F-21 IN TO EVAP 1	43.3 DEGF	-409.5	409.5	TF5008	F-21 IN TO EVAP 2	45.8 DEGF	-409.5	409.5
TF5003	F-21 OUT OF EVAP 1	41.9 DEGF	-409.5	409.5	TF5009	F-21 OUT OF EVAP 2	41.6 DEGF	-409.5	409.5
TF5004	F-21 OUT OF EVAP 1	42.3 DEGF	-409.5	409.5	TF5010	F-21 OUT OF EVAP 2	41.9 DEGF	-409.5	409.5
TW5005	H2O IN TO EVAP 1	128.3 DEGF	-409.5	409.5	TW5011	H2O IN TO EVAP 2	129.8 DEGF	-409.5	409.5
TW5006	H2O IN TO EVAP 1	128.3 DEGF	-409.5	409.5	TW5012	H2O IN TO EVAP 2	129.0 DEGF	-409.5	409.5
TW5011	H2O IN TO EVAP 2	129.8 DEGF	-409.5	409.5	TD5017	EVAP EXH TOPOFF DT	212.4 DEGF	30.0	240.0
TW5012	H2O IN TO EVAP 2	129.0 DEGF	-409.5	409.5	TD5018	EVAP EXH TOPOFF DT	74.8 DEGF	30.0	240.0
TD5013	EVAP EXH TOPOFF DT	-134.5 DEGF	30.0	240.0	TD5019	EVAP EXH TOPOFF DT	214.8 DEGF	30.0	240.0
TD5014	EVAP EXH TOPOFF DT	-109.8 DEGF	30.0	240.0	TD5020	EVAP EXH TOPOFF DT	177.2 DEGF	30.0	240.0
TD5015	EVAP EXH TOPOFF DT	206.3 DEGF	30.0	240.0	TD5021	EVAP EXH TOPOFF DT	191.8 DEGF	30.0	240.0
TD5016	EVAP EXH TOPOFF DT	193.0 DEGF	30.0	240.0	TD5022	EVAP EXH TOPOFF DT	175.9 DEGF	30.0	240.0
TD5023	EVAP RE-ENTRY DUCT	170.9 DEGF	30.0	240.0	TD5028	EVAP RE-ENTRY DUCT	49.7 DEGF	30.0	240.0
TD5024	EVAP RE-ENTRY DUCT	190.5 DEGF	30.0	240.0	TD5029	EVAP RE-ENTRY DUCT	48.3 DEGF	30.0	240.0
TD5025	EVAP RE-ENTRY DUCT	146.0 DEGF	30.0	240.0	TD5030	EVAP RE-ENTRY DUCT	56.8 DEGF	30.0	240.0
TD5026	EVAP RE-ENTRY DUCT	130.6 DEGF	30.0	240.0	TD5031	EVAP RE-ENTRY DUCT	73.4 DEGF	30.0	240.0
TD5027	EVAP RE-ENTRY DUCT	51.2 DEGF	30.0	240.0					
TD5032	EVAP EXH RE-ENTRY	77.5 DEGF	30.0	240.0	TD5036	EVAP EXH RE-ENTRY	84.4 DEGF	30.0	240.0
TD5033	EVAP EXH RE-ENTRY	69.2 DEGF	30.0	240.0	TD5037	EVAP EXH RE-ENTRY	210.0 DEGF	30.0	240.0
TD5034	EVAP EXH RE-ENTRY	52.6 DEGF	30.0	240.0	TD5038	EVAP EXH RE-ENTRY	211.2 DEGF	30.0	240.0
TD5035	EVAP EXH RE-ENTRY	48.3 DEGF	30.0	240.0	TD5039	EVAP EXH RE-ENTRY	212.4 DEGF	30.0	240.0
					PN5051	H2O TK GN2 PRESS	28.5 PSI	-409.5	409.5
PF5052	F-21 DIF PRSS EV 1	15.3 PSID	-409.5	409.5	PF5053	F-21 DIF PRSS EV 2	15.9 PSID	-409.5	409.5
PW5054	H2O SUP PRSS TO EV	27.9 PSIA	-409.5	409.5	PW5055	H2O SUP PRSS TO EV	24.7 PSIA	-409.5	409.5
PE5056	EVAP 1 CHMBR PRSS	1.27 TORR	-40.95	40.95	PE5057	EVAP 2 CHMBR PRSS	0.61 TORR	-40.95	40.95
# PD5058	EXMT DUCT PRSS DP	LLL TORR	-40.95	40.95	# PD5065	EXMT DUCT PRSS DP	LLL TORR	-40.95	40.95
PD5059	EXMT DUCT PRSS DP	0.06 TORR	-40.95	40.95	# PD5066	EXMT DUCT PRSS DP	LLL TORR	-40.95	40.95
PD5060	EXMT DUCT PRSS DP	0.11 TORR	-40.95	40.95	PD5067	EXMT DUCT PRSS DP	0.12 TORR	-40.95	40.95
PD5061	EXMT DUCT PRSS	0.37 TORR	-40.95	40.95	PD5068	EXMT DUCT PRSS DP	0.27 TORR	-40.95	40.95
PD5062	EXMT DUCT PRSS	0.61 TORR	-40.95	40.95	PD5069	EXMT DUCT PRSS DP	0.15 TORR	-40.95	40.95
PD5063	EXMT DUCT PRSS	0.53 TORR	-40.95	40.95	# PD5070	EXMT DUCT PRSS DP	LLL TORR	-40.95	40.95
PD5064	EXMT DUCT PRSS	0.023 TORR	-4.095	4.095	PD5071	EXMT DUCT PRSS DP	0.008 TORR	-4.095	4.095
					FW5081	TOT H2O FLO TO EVP	105.3 PPH	-409.5	409.5
FW5082	H2O FLO TO FL EVAP	7.0 PPH	-409.5	409.5	FW5083	H2O FLO TO FL EVAP	0.0 PPH	-409.5	409.5
					WT5091	H2O TANK WEIGHT	68.2 LBS	-409.5	409.5
HI5170	TOP OFF DUCT HTR 1	1.78 AMPS	-40.95	40.95	HI5172	TOP OFF DUCT HTR 3	1.47 AMPS	-40.95	40.95
HI5171	TOP OFF DUCT HTR 2	2.15 AMPS	-40.95	40.95	HI5173	TOP OFF DUCT HTR 4	2.05 AMPS	-40.95	40.95
HI5174	R-ETY DT HTR PWR 1	0.84 AMPS	-40.95	40.95	HI5178	R-ETY DT HTR PWR 3	0.67 AMPS	-40.95	40.95
HI5175	R-ETY DT HTR PWR 2	0.91 AMPS	-40.95	40.95					
HI5176	S-S NOZZLE HTR	0.32 AMPS	-40.95	40.95	HI5177	S S NOZZLE HTR	0.32 AMPS	-40.95	40.95
FM5643	HI-FL TO PRI VALV	2751 PPH	-4095	4095	FM5649	HI-FLOW TO SEC PNL	2746 PPH	-4095	4095
					FM5660	F21 TOTAL FLOW	5.48 KPPH	-40.95	40.95

	-MID-	---DESCRIPTION----	---VALUE---	----LIMITS----		-MID-	---DESCRIPTION----	---VALUE---	----LIMITS----	
	ZQ5201	INST HT RJCT EV 1	0.0 KBTU	-409.5 409.5		ZQ5202	INST HT RJCT EV 2	0.0 KBTU	-409.5 409.5	
						ZQ5203	INSTANT HEAT RJCT	0.0 KBTU	-409.5 409.5	
#	ZQ5211	TOT HT RJCT EVP 1	RRR KBTU	-409.5 409.5	#	ZQ5212	TOT HT RJCT EVP 2	RRR KBTU	-409.5 409.5	
					#	ZQ5213	TOT HT RJCT	RRR KBTU	-409.5 409.5	
#	ZW5221	TOT WATR FLW EV 1	RRR LBS	-409.5 409.5	#	ZW5222	TOT WATR FLW EV 2	RRR LBS	-409.5 409.5	
					#	ZW5223	TOT WATR FLW	RRR LBS	-409.5 409.5	
					#	ZW5224	WATR TNK DIFF WT.	RRR LBS	-409.5 409.5	
*	ZE5231	SIG EVE TOT EVP 1	11.4 MIN	-409.5 409.5	*	ZE5232	SIG EVE TOT EVP 2	11.4 MIN	-409.5 409.5	
					*	ZE5234	TOTAL TEST TIME	71.4 MIN	-409.5 409.5	
#	ZQ5241	AVG HT LOAD EVP 1A	RRR KBTU	-409.5 409.5	#	ZQ5242	AVG HT LOAD EVP 2A	RRR KBTU	-409.5 409.5	
					#	ZQ5243	AVG HT LOAD A	RRR KBTU	-409.5 409.5	
	ZQ5251	AVG HT LOAD EVP 1B	0.0 KBTU	-409.5 409.5		ZQ5252	AVG HT LOAD EVP 2B	0.0 KBTU	-409.5 409.5	
						ZQ5253	AVG HT LOAD B	0.0 KBTU	-409.5 409.5	
#	ZF5261	AVG WATR USE EV 1	RRR LBSH	-409.5 409.5	#	ZF5262	AVG WATR USE EV 2	RRR LBSH	-409.5 409.5	
					#	ZF5263	AVG WATR USE A	RRR LBSH	-409.5 409.5	
					#	ZF5264	AVG WATR USE B	RRR LBSH	-409.5 409.5	
#	ZH5271	AVG ENT CHNG EV 1	RRR BTUP	- 4095 4095	#	ZH5272	AVG ENT CHNG EV 2	RRR BTUP	- 4095 4095	
					#	ZH5273	AVG ENTP CHNG A	RRR BTUP	- 4095 4095	
					#	ZH5281	AVG ENTP CHNG B	RRR BTUP	- 4095 4095	
	ZT5301	MIN F-21 OUT TEM 1	36.0 DEGF	-409.5 409.5		ZT5302	MIN F-21 OUT TEM 2	36.0 DEGF	-409.5 409.5	
	ZT5311	MAX F-21 OUT TEM 1	65.8 DEGF	-409.5 409.5		ZT5312	MAX F-21 OUT TEM 2	66.6 DEGF	-409.5 409.5	
	ZQ5321	TP-OF UT HTR PWR 1	0.0 WATT	-409.5 409.5		ZQ5351	TP-OFF DUCT 1 AVG	178.2 DEGF	-409.5 409.5	132.70
	ZQ5322	TP-OF UT HTR PWR 2	0.0 WATT	-409.5 409.5		ZQ5352	TP-OFF DUCT 2 AVG	183.6 DEGF	-409.5 409.5	145.6
	ZQ5323	TP-OF UT HTR PWR 3	0.0 WATT	-409.5 409.5		ZQ5353	TP-OFF DUCT 3 AVG	187.3 DEGF	-409.5 409.5	13.2
	ZQ5324	TP-OF UT HTR PWR 4	0.0 WATT	-409.5 409.5		ZQ5354	TP-OFF DUCT 4 AVG	206.7 DEGF	-409.5 409.5	12.1
	ZQ5331	R-ETY UT HTR PWR 1	0.0 WATT	-409.5 409.5		ZQ5355	R-ETRY DUCT 1 AVG	51.5 DEGF	-409.5 409.5	303.6 Tap Off Total
	ZQ5332	R-ETY UT HTR PWR 2	0.0 WATT	-409.5 409.5		ZQ5356	R-ETRY DUCT 2 AVG	78.4 DEGF	-409.5 409.5	
	ZQ5333	R-ETY UT HTR PWR 3	0.0 WATT	-409.5 409.5		ZQ5359	R-ETRY DUCT 3 AVG	57.2 DEGF	-409.5 409.5	28.3
	ZN5341	S S NOZ HTR PWR	0.0 WATT	-409.5 409.5		ZN5357	SS NOZZLE 1 AVG	180.1 DEGF	-409.5 409.5	28.3
	ZN5342	S S NOZ HTR PWR	0.0 WATT	-409.5 409.5		ZN5358	SS NOZZLE 2 AVG	138.3 DEGF	-409.5 409.5	56.6 Nozzle Total
	TM5403	MSFC ASPS TEMP 1	82.1 DEGF	-409.5 409.5		TM5404	MSFC ASPS TEMP 2	79.3 DEGF	-409.5 409.5	
#	TF5501	P FLO CONT VLV IN	LLL DEGF	-409.5 409.5	#	TF5506	S FLO CONT VLV IN	LLL DEGF	-409.5 409.5	
#	TF5528	P CON OUT MIX CH	UUU DEGF	-409.5 409.5	#	TF5530	S CON OUT MIX CH	UUU DEGF	-409.5 409.5	
#	TF5529	P CON OUT MIX CH	UUU DEGF	-409.5 409.5	#	TF5531	S CON OUT MIX CH	UUU DEGF	-409.5 409.5	
	FM5643	MI FL TO PRI VALV	2751 PPM	- 4095 4095		FM5649	... FLOW TO SEC PNL	2746 PPM	- 4095 4095	

Calculate Heater Powers From Appendix D, p. 90, of FE Test Plan

C-41

END OF T.P. 17

-MID-	---DESCRIPTION----	---VALUE---	----LIMITS----		-MID-	---DESCRIPTION----	---VALUE---	----LIMITS----	
**	TF5001 F-21 IN TO EVAP 1	43.3 DEGF	-409.5	409.5		TF5007 F-21 IN TO EVAP 2	43.7 DEGF	-409.5	409
	TF5002 F-21 IN TO EVAP 1	41.9 DEGF	-409.5	409.5		TF5008 F-21 IN TO EVAP 2	43.7 DEGF	-409.5	409.5
	TF5003 F-21 OUT OF EVAP 1	40.5 DEGF	-409.5	409.5		TF5009 F-21 OUT OF EVAP 2	39.9 DEGF	-409.5	409.5
	TF5004 F-21 OUT OF EVAP 1	40.9 DEGF	-409.5	409.5		TF5010 F-21 OUT OF EVAP 2	39.8 DEGF	-409.5	409.5
	TW5005 H2O IN TO EVAP 1	128.3 DEGF	-409.5	409.5		TW5011 H2O IN TO EVAP 2	128.6 DEGF	-409.5	409.5
	TW5006 H2O IN TO EVAP 1	127.9 DEGF	-409.5	409.5		TW5012 H2O IN TO EVAP 2	127.9 DEGF	-409.5	409.5
	TW5011 H2O IN TO EVAP 2	128.6 DEGF	-409.5	409.5		TD5017 EVAP EXH TOPOFF DT	214.8 DEGF	30.0	240.0
	TW5012 H2O IN TO EVAP 2	127.9 DEGF	-409.5	409.5		TD5018 EVAP EXH TOPOFF DT	198.4 DEGF	30.0	240.0
	TD5013 EVAP EXH TOPOFF DT	-138.3 DEGF	30.0	240.0		TD5019 EVAP EXH TOPOFF DT	215.0 DEGF	30.0	240.0
	TD5014 EVAP EXH TOPOFF DT	-119.0 DEGF	30.0	240.0		TD5020 EVAP EXH TOPOFF DT	178.6 DEGF	30.0	240.0
	TD5015 EVAP EXH TOPOFF DT	212.4 DEGF	30.0	240.0		TD5021 EVAP EXH TOPOFF DT	193.0 DEGF	30.0	240.0
	TD5016 EVAP EXH TOPOFF DT	197.8 DEGF	30.0	240.0		TD5022 EVAP EXH TOPOFF DT	177.9 DEGF	30.0	240.0
**	TD5023 EVAP RE-ENTRY DUCT	173.4 DEGF	30.0	240.0		TD5028 EVAP RE-ENTRY DUCT	49.7 DEGF	30.0	24
	TD5024 EVAP RE-ENTRY DUCT	193.0 DEGF	30.0	240.0		TD5029 EVAP RE-ENTRY DUCT	46.9 DEGF	30.0	240.0
	TD5025 EVAP RE-ENTRY DUCT	151.0 DEGF	30.0	240.0		TD5030 EVAP RE-ENTRY DUCT	56.8 DEGF	30.0	240.0
	TD5026 EVAP RE-ENTRY DUCT	138.3 DEGF	30.0	240.0		TD5031 EVAP RE-ENTRY DUCT	73.6 DEGF	30.0	240.0
	TD5027 EVAP RE-ENTRY DUCT	52.6 DEGF	30.0	240.0					
**	TD5032 EVAP EXH RE-ENTRY	78.9 DEGF	30.0	240.0		TD5036 EVAP EXH RE-ENTRY	84.4 DEGF	30.0	240
	TD5033 EVAP EXH RE-ENTRY	70.6 DEGF	30.0	240.0		TD5037 EVAP EXH RE-ENTRY	218.3 DEGF	30.0	240.0
	TD5034 EVAP EXH RE-ENTRY	54.0 DEGF	30.0	240.0		TD5038 EVAP EXH RE-ENTRY	219.5 DEGF	30.0	240.0
	TD5035 EVAP EXH RE-ENTRY	48.3 DEGF	30.0	240.0		TD5039 EVAP EXH RE-ENTRY	220.4 DEGF	30.0	240.0
**						PN5051 H2O TK GN2 PRESS	28.5 PSI	-409.5	409
	PF5052 F-21 DIF PRSS FV 1	10.2 PSID	-409.5	409.5		PF5053 F-21 DIF PRSS FV 2	10.8 PSID	-409.5	409.5
	PW5054 H2O SUP PRSS TO EV	25.7 PSIA	-409.5	409.5		PW5055 H2O SUP PRSS TO EV	27.1 PSIA	-409.5	409.5
	PE5056 EVAP 1 CHMBR PRSS	0.77 TORR	-40.95	40.95		PE5057 EVAP 2 CHMBR PRSS	0.57 TORR	-40.95	40.95
**	PD5058 EXHT DUCT PRSS DP	0.29 TORR	-40.95	40.95		PD5065 EXHT DUCT PRSS DP	0.22 TORR	-40.95	40.
	PD5059 EXHT DUCT PRSS DP	0.08 TORR	-40.95	40.95	#	PD5066 EXHT DUCT PRSS DP	LLL TORR	-40.95	40.95
	PD5060 EXHT DUCT PRSS DP	0.15 TORR	-40.95	40.95		PD5067 EXHT DUCT PRSS DP	0.32 TORR	-40.95	40.95
	PD5061 EXHT DUCT PRSS	0.33 TORR	-40.95	40.95		PD5068 EXHT DUCT PRSS DP	0.28 TORR	-40.95	40.95
	PD5062 EXHT DUCT PRSS	0.45 TORR	-40.95	40.95		PD5069 EXHT DUCT PRSS DP	0.21 TORR	-40.95	40.95
	PD5063 EXHT DUCT PRSS	0.41 TORR	-40.95	40.95	#	PD5070 EXHT DUCT PRSS DP	LLL TORR	-40.95	40.95
	PD5064 EXHT DUCT PRSS	0.019 TORR	-4.095	4.095		PD5071 EXHT DUCT PRSS DP	0.008 TORR	-4.095	4.095
**						FW5081 TOT H2O FLO TO EVP	9.0 PPH	-409.5	409
	FW5082 H2O FLO TO FL EVAP	9.8 PPH	-409.5	409.5		FW5083 H2O FLO TO FL EVAP	0.0 PPH	-409.5	409.5
						WT5091 H2O TANK WEIGHT	62.8 LBS	-409.5	409.5
**	HI5170 TOP OFF DUCT HTR 1	1.78 AMPS	-40.95	40.95		HI5172 TOP OFF DUCT HTR 3	1.45 AMPS	-40.95	40.
	HI5171 TOP OFF DUCT HTR 2	2.14 AMPS	-40.95	40.95		HI5173 TOP OFF DUCT HTR 4	2.00 AMPS	-40.95	40.95
**	HI5174 R-ETY DT HTR PWR 1	0.84 AMPS	-40.95	40.95		HI5178 R-ETY DT HTR PWR 3	0.67 AMPS	-40.95	40.
	HI5175 R-ETY DT HTR PWR 2	0.91 AMPS	-40.95	40.95					
	HI5176 S S NOZZLE HTR	0.32 AMPS	-40.95	40.95		HI5177 S S NOZZLE HTR	0.32 AMPS	-40.95	40.95
**	FM5663 HI FL TO PRI VALV	2251 PPH	- 4095	4095		FM5649 HI FLOW TO SEC PNL	2252 PPH	- 4095	40
						FM5660 F21 TOTAL FLOW	4.51 KPPH	-40.95	40.95

	-MID-	---DESCRIPTION----	---VALUE---	----LIMITS----		-MID-	---DESCRIPTION----	---VALUE---	----LIMITS----	
‡‡	Z05201	INST HT RJCT EV 1	0.6 KBTU	-409.5 409.5		Z05202	INST HT RJCT EV 2	1.8 KBTU	-409.5 409	
						Z05203	INSTANT HEAT RJCT	2.4 KBTU	-409.5 409.5	
‡‡	Z05211	TOT HT RJCT EVP 1	0.5 KBTU	-409.5 409.5		Z05212	TOT HT RJCT EVP 2	1.5 KBTU	-409.5 409	
						Z05213	TOT HT RJCT	2.0 KBTU	-409.5 409.5	
‡‡	ZW5221	TOT WATR FLW EV 1	3.0 LBS	-409.5 409.5		ZW5222	TOT WATR FLW EV 2	2.6 LBS	-409.5 409	
						ZW5223	TOT WATR FLW	5.5 LBS	-409.5 409.5	
						ZW5224	WATR TNK DIFF WT.	3.0 LBS	-409.5 409.5	
‡‡*	ZE5231	SIG EVE TOT EVP 1	5.9 MIN	-409.5 409.5	*	ZE5232	SIG EVE TOT EVP 2	5.9 MIN	-409.5 409	
					*	ZE5234	TOTAL TEST TIME	39.0 MIN	-409.5 409.5	
‡‡	Z05241	AVG HT LOAD EVP 1A	0.8 KBTU	-409.5 409.5		Z05242	AVG HT LOAD EVP 2A	2.2 KBTU	-409.5 409	
						Z05243	AVG HT LOAD A	3.0 KBTU	-409.5 409.5	
	Z05251	AVG HT LOAD EVP 1B	2.0 KBTU	-409.5 409.5		Z05252	AVG HT LOAD EVP 2B	2.2 KBTU	-409.5 409.5	
						Z05253	AVG HT LOAD B	4.2 KBTU	-409.5 409.5	
‡‡	ZF5261	AVG WATR USE EV 1	4.5 LBSH	-409.5 409.5		ZF5262	AVG WATR USE EV 2	3.9 LBSH	-409.5 409	
						ZF5263	AVG WATR USE A	8.4 LBSH	-409.5 409.5	
						ZF5264	AVG WATR USE B	4.5 LBSH	-409.5 409.5	
‡‡	ZH5271	AVG ENT CHNG EV 1	180 BTUP	- 4095 4095		ZH5272	AVG ENT CHNG EV 2	565 BTUP	- 4095 40	
						ZH5273	AVG ENTP CHNG A	359 BTUP	- 4095 4095	
						ZH5281	AVG ENTP CHNG B	664 BTUP	- 4095 4095	
‡‡	ZT5301	MIN F-21 OUT TEM 1	41.2 DEGF	-409.5 409.5		ZT5302	MIN F-21 OUT TEM 2	40.2 DEGF	-409.5 409	
#	ZT5311	MAX F-21 OUT TEM 1	RRR DEGF	-409.5 409.5	#	ZT5312	MAX F-21 OUT TEM 2	RRR DEGF	-409.5 409.5	
‡‡	Z05321	TP-OF DT HTR PWR 1	134.4 WATT	-409.5 409.5		Z05351	TP-OFF DUCT 1 AVG	187.2 DEGF	-409.5 409	
	Z05322	TP-OF DT HTR PWR 2	143.3 WATT	-409.5 409.5		Z05352	TP-OFF DUCT 2 AVG	190.1 DEGF	-409.5 409.5	
	Z05323	TP-OF DT HTR PWR 3	39.7 WATT	-409.5 409.5		Z05353	TP-OFF DUCT 3 AVG	189.7 DEGF	-409.5 409.5	
	Z05324	TP-OF DT HTR PWR 4	60.7 WATT	-409.5 409.5		Z05354	TP-OFF DUCT 4 AVG	209.4 DEGF	-409.5 409.5	
	Z05331	R-ETY DT HTR PWR 1	10.1 WATT	-409.5 409.5		Z05355	R-ETHY DUCT 1 AVG	51.8 DEGF	-409.5 409.5	
	Z05332	R-ETY DT HTR PWR 2	13.3 WATT	-409.5 409.5		Z05356	R-ETHY DUCT 2 AVG	79.3 DEGF	-409.5 409.5	
	Z05333	R-ETY DT HTR PWR 3	10.1 WATT	-409.5 409.5		Z05359	R-ETHY DUCT 3 AVG	57.4 DEGF	-409.5 409.5	
	ZN5341	S S NOZ HTR PWR	27.7 WATT	-409.5 409.5		ZN5357	SS NOZZLE 1 AVG	183.2 DEGF	-409.5 409.5	
	ZN5342	S S NOZ HTR PWR	27.7 WATT	-409.5 409.5		ZN5358	SS NOZZLE 2 AVG	144.7 DEGF	-409.5 409.5	
‡‡	TM5403	MSFC ASPS TEMP 1	79.3 DEGF	-409.5 409.5		TM5404	MSFC ASPS TEMP 2	74.6 DEGF	-409.5 409	
#	TF5501	P FLO CONT VLV IN	LLL DEGF	-409.5 409.5		TF5506	S FLO CONT VLV IN	44.5 DEGF	-409.5 409.5	
#	TF5529	P CON OUT MIX CH	UUU DEGF	-409.5 409.5	#	TF5530	S CON OUT MIX CH	UUU DEGF	-409.5 409.5	
#	TF5559	P CON OUT MIX CH	UUU DEGF	-409.5 409.5	#	TF5531	S CON OUT MIX CH	UUU DEGF	-409.5 409.5	
‡‡	FM5643	HI FL TO PRI VALV	2251 PPH	- 4095 4095		FM5649	HI FLOW TO SEC PNL	2252 PPH	- 4095 40	

LAST DATA BEFORE EVAP 2 FAILURE.

PAGE 01 CSI IW/EVAP SCOOP (0005) CHAMBER A DAY 114, 10 HRS, 00 MIN, 00 SEC

-MID-	---DESCRIPTION----	---VALUE---	----LIMITS----		-MID-	---DESCRIPTION----	---VALUE---	----LIMITS----	
TF5001	F-21 IN TO EVAP 1	68.2 DEGF	-409.5	409.5	TF5007	F-21 IN TO EVAP 2	67.4 DEGF	-409.5	409.5
TF5002	F-21 IN TO EVAP 1	66.6 DEGF	-409.5	409.5	TF5008	F-21 IN TO EVAP 2	67.8 DEGF	-409.5	409.5
TF5003	F-21 OUT OF EVAP 1	47.5 DEGF	-409.5	409.5	TF5009	F-21 OUT OF EVAP 2	44.1 DEGF	-409.5	409.5
TF5004	F-21 OUT OF EVAP 1	47.9 DEGF	-409.5	409.5	TF5010	F-21 OUT OF EVAP 2	44.1 DEGF	-409.5	409.5
TW5005	H20 IN TO EVAP 1	130.1 DEGF	-409.5	409.5	TW5011	H20 IN TO EVAP 2	131.9 DEGF	-409.5	409.5
TW5006	H20 IN TO EVAP 1	130.5 DEGF	-409.5	409.5	TW5012	H20 IN TO EVAP 2	131.9 DEGF	-409.5	409.5
!! TW5011	H20 IN TO EVAP 2	131.3 DEGF	-409.5	409.5	TD5017	EVAP EXH TOPOFF DT	49.7 DEGF	30.0	240
TW5012	H20 IN TO EVAP 2	131.3 DEGF	-409.5	409.5	# TD5018	EVAP EXH TOPOFF DT	17.9 DEGF	30.0	240.0
TD5013	EVAP EXH TOPOFF DT	35.4 DEGF	30.0	240.0	TD5019	EVAP EXH TOPOFF DT	80.3 DEGF	30.0	240.0
TD5014	EVAP EXH TOPOFF DT	42.5 DEGF	30.0	240.0	TD5020	EVAP EXH TOPOFF DT	69.2 DEGF	30.0	240.0
TD5015	EVAP EXH TOPOFF DT	51.2 DEGF	30.0	240.0	TD5021	EVAP EXH TOPOFF DT	91.1 DEGF	30.0	240.0
TD5016	EVAP EXH TOPOFF DT	38.2 DEGF	30.0	240.0	TD5022	EVAP EXH TOPOFF DT	73.4 DEGF	30.0	240.0
!! TD5023	EVAP RE-ENTRY DUCT	63.7 DEGF	30.0	240.0	TD5028	EVAP RE-ENTRY DUCT	38.2 DEGF	30.0	240
TD5024	EVAP RE-ENTRY DUCT	69.2 DEGF	30.0	240.0	TD5029	EVAP RE-ENTRY DUCT	38.2 DEGF	30.0	240.0
TD5025	EVAP RE-ENTRY DUCT	36.8 DEGF	30.0	240.0	TD5030	EVAP RE-ENTRY DUCT	44.0 DEGF	30.0	240.0
# TD5026	EVAP RE-ENTRY DUCT	28.2 DEGF	30.0	240.0	TD5031	EVAP RE-ENTRY DUCT	55.4 DEGF	30.0	240.0
TD5027	EVAP RE-ENTRY DUCT	39.7 DEGF	30.0	240.0					
!! TD5032	EVAP EXH RE-ENTRY	58.1 DEGF	30.0	240.0	TD5036	EVAP EXH RE-ENTRY	60.9 DEGF	30.0	240
TD5033	EVAP EXH RE-ENTRY	52.6 DEGF	30.0	240.0	TD5037	EVAP EXH RE-ENTRY	72.0 DEGF	30.0	240.0
TD5034	EVAP EXH RE-ENTRY	39.7 DEGF	30.0	240.0	TD5038	EVAP EXH RE-ENTRY	80.3 DEGF	30.0	240.0
TD5035	EVAP EXH RE-ENTRY	35.4 DEGF	30.0	240.0	TD5039	EVAP EXH RE-ENTRY	55.4 DEGF	30.0	240.0
					PN5051	H20 TK GN2 PRESS	28.6 PSI	-409.5	409.5
PF5052	F-21 DIF PRSS EV 1	10.2 PSID	-409.5	409.5	PF5053	F-21 DIF PRSS EV 2	10.8 PSID	-409.5	409.5
PW5054	H20 SUP PRSS TO EV	21.9 PSIA	-409.5	409.5	PW5055	H20 SUP PRSS TO EV	21.6 PSIA	-409.5	409.5
PF5056	EVAP 1 CHMBR PRSS	2.84 TORR	-40.95	40.95	PF5057	EVAP 2 CHMBR PRSS	0.49 TORR	-40.95	40.95
!! PD5058	EXHT DUCT PRSS DP	0.17 TORR	-40.95	40.95	PD5065	EXHT DUCT PRSS DP	0.35 TORR	-40.95	40.
PD5059	EXHT DUCT PRSS DP	0.15 TORR	-40.95	40.95	# PD5066	EXHT DUCT PRSS DP	LLL TORR	-40.95	40.95
PD5060	EXHT DUCT PRSS DP	0.26 TORR	-40.95	40.95	PD5067	EXHT DUCT PRSS DP	0.48 TORR	-40.95	40.95
PD5061	EXHT DUCT PRSS	0.22 TORR	-40.95	40.95	PD5068	EXHT DUCT PRSS DP	0.41 TORR	-40.95	40.95
PD5062	EXHT DUCT PRSS	1.47 TORR	-40.95	40.95	PD5069	EXHT DUCT PRSS DP	0.56 TORR	-40.95	40.95
PD5063	EXHT DUCT PRSS	1.39 TORR	-40.95	40.95	PD5070	EXHT DUCT PRSS DP	0.03 TORR	-40.95	40.95
PD5064	EXHT DUCT PRSS	0.068 TORR	-4.095	4.095	PD5071	EXHT DUCT PRSS DP	0.038 TORR	-4.095	4.095
!!					FW5081	TOT H20 FLO TO EVP	27.8 PPH	-409.5	409
FW5082	H20 FLO TO FL EVAP	14.5 PPH	-409.5	409.5	FW5083	H20 FLO TO FL EVAP	14.8 PPH	-409.5	409.5
					WT5091	H20 TANK WEIGHT	39.1 LBS	-409.5	409.5
HI5170	TOP OFF DUCT HTR 1	1.82 AMPS	-40.95	40.95	HI5172	TOP OFF DUCT HTR 3	1.31 AMPS	-40.95	40.95
HI5171	TOP OFF DUCT HTR 2	2.25 AMPS	-40.95	40.95	HI5173	TOP OFF DUCT HTR 4	1.91 AMPS	-40.95	40.95
!! HI5174	R-ETY DT HTR PWR 1	0.70 AMPS	-40.95	40.95	HI5178	R-ETY DT HTR PWR 3	0.54 AMPS	-40.95	40.
HI5175	R-ETY DT HTR PWR 2	0.75 AMPS	-40.95	40.95					
!! HI5176	S S NOZZLE HTR	0.01 AMPS	-40.95	40.95	HI5177	S S NOZZLE HTR	0.00 AMPS	-40.95	40.
!! FM5643	HI FL TO PRI VALV	2251 PPH	- 4095	4095	FM5649	HI FLOW TO SEC PNL	2252 PPH	- 4095	40
					FM5660	F21 TOTAL FLOW	4.54 KPPH	-40.95	40.95

-MID-	---DESCRIPTION----	---VALUE---	----LIMITS----		-MID-	---DESCRIPTION----	---VALUE---	----LIMITS----	
‡‡	ZQ5201 INST HT RJCT EV 1	10.5 KBTU	-409.5	409.5		ZQ5202 INST HT RJCT EV 2	13.3 KBTU	-409.5	409
						ZQ5203 INSTANT HEAT RJCT	23.8 KBTU	-409.5	409.5
‡‡	ZQ5211 TOT HT RJCT EVP 1	38.6 KBTU	-409.5	409.5		ZQ5212 TOT HT RJCT EVP 2	48.0 KBTU	-409.5	409
						ZQ5213 TOT HT RJCT	86.6 KBTU	-409.5	409.5
‡‡	ZW5221 TOT WATR FLW EV 1	55.7 LBS	-409.5	409.5		ZW5222 TOT WATR FLW EV 2	56.4 LBS	-409.5	409
						ZW5223 TOT WATR FLW	111.9 LBS	-409.5	409.5
						ZW5224 WATR TNK DIFF WT.	99.8 LBS	-409.5	409.5
‡‡*	ZE5231 SIG EVE TOT EVP 1	236.7 MIN	-409.5	409.5	*	ZE5232 SIG EVE TOT EVP 2	236.7 MIN	-409.5	409
					*	ZE5234 TOTAL TEST TIME	239.6 MIN	-409.5	409.5
‡‡	ZQ5241 AVG HT LOAD EVP 1A	9.7 KBTU	-409.5	409.5		ZQ5242 AVG HT LOAD EVP 2A	12.0 KBTU	-409.5	409
						ZQ5243 AVG HT LOAD A	21.7 KBTU	-409.5	409.5
‡‡	ZQ5251 AVG HT LOAD EVP 1B	14.9 KBTU	-409.5	409.5		ZQ5252 AVG HT LOAD EVP 2B	16.9 KBTU	-409.5	409
						ZQ5253 AVG HT LOAD B	29.7 KBTU	-409.5	409.5
‡‡	ZF5261 AVG WATR USE EV 1	14.0 LBSH	-409.5	409.5		ZF5262 AVG WATR USE EV 2	13.9 LBSH	-409.5	409
						ZF5263 AVG WATR USE A	27.8 LBSH	-409.5	409.5
						ZF5264 AVG WATR USE B	24.9 LBSH	-409.5	409.5
‡‡	ZH5271 AVG ENT CHNG EV 1	692 BTUP	- 4095	4095		ZH5272 AVG ENT CHNG EV 2	866 BTUP	- 4095	40
						ZH5273 AVG ENTP CHNG A	779 BTUP	- 4095	4095
						ZH5281 AVG ENTP CHNG B	869 BTUP	- 4095	4095
‡‡	ZT5301 MIN F-21 OUT TEM 1	43.7 DEGF	-409.5	409.5		ZT5302 MIN F-21 OUT TEM 2	41.2 DEGF	-409.5	409
#	ZT5311 MAX F-21 OUT TEM 1	RRR DEGF	-409.5	409.5	#	ZT5312 MAX F-21 OUT TEM 2	RRR DEGF	-409.5	409.5
‡‡	ZD5321 TP-OF DT HTR PWR 1	133.8 WATT	-409.5	409.5		ZD5351 TP-OFF DUCT 1 AVG	59.4 DEGF	-409.5	409
	ZD5322 TP-OF DT HTR PWR 2	151.5 WATT	-409.5	409.5		ZD5352 TP-OFF DUCT 2 AVG	52.9 DEGF	-409.5	409.5
	ZD5323 TP-OF DT HTR PWR 3	26.1 WATT	-409.5	409.5		ZD5353 TP-OFF DUCT 3 AVG	67.6 DEGF	-409.5	409.5
	ZD5324 TP-OF DT HTR PWR 4	40.9 WATT	-409.5	409.5		ZD5354 TP-OFF DUCT 4 AVG	56.1 DEGF	-409.5	409.5
	ZD5331 R-ETY DT HTR PWR 1	6.9 WATT	-409.5	409.5		ZD5355 R-ETRY DUCT 1 AVG	40.4 DEGF	-409.5	409.5
	ZD5332 R-ETY DT HTR PWR 2	8.4 WATT	-409.5	409.5		ZD5356 R-ETRY DUCT 2 AVG	58.1 DEGF	-409.5	409.5
	ZD5333 R-ETY DT HTR PWR 3	6.6 WATT	-409.5	409.5		ZD5359 R-ETRY DUCT 3 AVG	42.6 DEGF	-409.5	409.5
	ZN5341 S S NOZ HTR PWR	0.0 WATT	-409.5	409.5		ZN5357 SS NOZZLE 1 AVG	67.9 DEGF	-409.5	409.5
	ZN5342 S S NOZ HTR PWR	0.0 WATT	-409.5	409.5		ZN5358 SS NOZZLE 2 AVG	32.5 DEGF	-409.5	409.5
‡‡	TM5403 MSFC ASPS TEMP 1	82.1 DEGF	-409.5	409.5		TM5404 MSFC ASPS TEMP 2	78.0 DEGF	-409.5	409
#	TF5501 P FLO CONT VLV IN	LLL DEGF	-409.5	409.5	#	TF5506 S FLO CONT VLV IN	LLL DEGF	-409.5	409.5
#	TF5529 P CON OUT MIX CH	UUU DEGF	-409.5	409.5	#	TF5530 S CON OUT MIX CH	UUU DEGF	-409.5	409.5
#	TF5529 P CON OUT MIX CH	UUU DEGF	-409.5	409.5	#	TF5531 S CON OUT MIX CH	UUU DEGF	-409.5	409.5
‡	FM5649 HI FL TO PRI VALV	2251 PPH	- 4095	4095		FM5649 HI FLOW TO SEC PNL	2252 PPH	- 4095	409

MID	DESCRIPTION	VALUE	LIMITS		MID	DESCRIPTION	VALUE	LIMITS	
‼	TF5001 F-21 IN TO EVAP 1	65.0 DEGF	-409.5	409.5		TF5007 F-21 IN TO EVAP 2	64.2 DEGF	-409.5	409
	TF5002 F-21 IN TO EVAP 1	63.4 DEGF	-409.5	409.5		TF5008 F-21 IN TO EVAP 2	65.0 DEGF	-409.5	409.5
	TF5003 F-21 OUT OF EVAP 1	43.7 DEGF	-409.5	409.5		TF5009 F-21 OUT OF EVAP 2	43.3 DEGF	-409.5	409.5
	TF5004 F-21 OUT OF EVAP 1	44.1 DEGF	-409.5	409.5		TF5010 F-21 OUT OF EVAP 2	43.7 DEGF	-409.5	409.5
	TW5005 H2O IN TO EVAP 1	124.1 DEGF	-409.5	409.5		TW5011 H2O IN TO EVAP 2	125.6 DEGF	-409.5	409.5
	TW5006 H2O IN TO EVAP 1	124.5 DEGF	-409.5	409.5		TW5012 H2O IN TO EVAP 2	125.6 DEGF	-409.5	409.5
‼	TW5011 H2O IN TO EVAP 2	125.6 DEGF	-409.5	409.5		TD5017 EVAP EXH TOPOFF DT	63.7 DEGF	30.0	240
	TW5012 H2O IN TO EVAP 2	125.6 DEGF	-409.5	409.5		TD5018 EVAP EXH TOPOFF DT	38.2 DEGF	30.0	240.0
	TD5013 EVAP EXH TOPOFF DT	32.5 DEGF	30.0	240.0		TD5019 EVAP EXH TOPOFF DT	154.8 DEGF	30.0	240.0
	TD5014 EVAP EXH TOPOFF DT	32.5 DEGF	30.0	240.0		TD5020 EVAP EXH TOPOFF DT	122.8 DEGF	30.0	240.0
	TD5015 EVAP EXH TOPOFF DT	36.8 DEGF	30.0	240.0		TD5021 EVAP EXH TOPOFF DT	205.1 DEGF	30.0	240.0
	TD5016 EVAP EXH TOPOFF DT	33.9 DEGF	30.0	240.0		TD5022 EVAP EXH TOPOFF DT	156.0 DEGF	30.0	240.0
	TD5023 EVAP RE-ENTRY DUCT	117.7 DEGF	30.0	240.0	#	TD5028 EVAP RE-ENTRY DUCT	- 10.7 DEGF	30.0	240.0
	TD5024 EVAP RE-ENTRY DUCT	125.4 DEGF	30.0	240.0	#	TD5029 EVAP RE-ENTRY DUCT	- 34.2 DEGF	30.0	240.0
	TD5025 EVAP RE-ENTRY DUCT	70.6 DEGF	30.0	240.0	#	TD5030 EVAP RE-ENTRY DUCT	- 34.2 DEGF	30.0	240.0
	TD5026 EVAP RE-ENTRY DUCT	60.9 DEGF	30.0	240.0	#	TD5031 EVAP RE-ENTRY DUCT	3.1 DEGF	30.0	240.0
#	TD5027 EVAP RE-ENTRY DUCT	4.5 DEGF	30.0	240.0					
‼#	TD5032 EVAP EXH RE-ENTRY	17.9 DEGF	30.0	240.0	#	TD5034 EVAP EXH RE-ENTRY	20.9 DEGF	30.0	240
#	TD5033 EVAP EXH RE-ENTRY	16.4 DEGF	30.0	240.0		TD5037 EVAP EXH RE-ENTRY	44.0 DEGF	30.0	240.0
#	TD5036 EVAP EXH RE-ENTRY	- 12.3 DEGF	30.0	240.0		TD5038 EVAP EXH RE-ENTRY	66.5 DEGF	30.0	240.0
#	TD5035 EVAP EXH RE-ENTRY	- 16.9 DEGF	30.0	240.0		TD5039 EVAP EXH RE-ENTRY	41.1 DEGF	30.0	240.0
‼						PN5051 H2O TK GN2 PRESS	28.5 PSI	-409.5	409
	PF5052 F-21 DIF PRSS EV 1	10.2 PSID	-409.5	409.5		PF5053 F-21 DIF PRSS EV 2	10.8 PSID	-409.5	409.5
	PW5054 H2O SUP PRSS TO EV	26.3 PSIA	-409.5	409.5		PW5055 H2O SUP PRSS TO EV	18.8 PSIA	-409.5	409.5
	PE5056 EVAP 1 CHMBR PRSS	4.21 TORR	-40.95	40.95		PE5057 EVAP 2 CHMBR PRSS	1.08 TORR	-40.95	40.95
‼	PD5058 EXHT DUCT PRSS DP	0.10 TORR	-40.95	40.95		PD5065 EXHT DUCT PRSS DP	0.19 TORR	-40.95	40.
	PD5059 EXHT DUCT PRSS DP	0.12 TORR	-40.95	40.95	#	PD5066 EXHT DUCT PRSS DP	LLL TORR	-40.95	40.95
	PD5060 EXHT DUCT PRSS DP	0.24 TORR	-40.95	40.95		PD5067 EXHT DUCT PRSS DP	0.46 TORR	-40.95	40.95
	PD5061 EXHT DUCT PRSS	0.22 TORR	-40.95	40.95		PD5068 EXHT DUCT PRSS DP	0.54 TORR	-40.95	40.95
	PD5062 EXHT DUCT PRSS	1.16 TORR	-40.95	40.95	#	PD5069 EXHT DUCT PRSS DP	VUU TORR	-40.95	40.95
	PD5063 EXHT DUCT PRSS	1.82 TORR	-40.95	40.95	#	PD5070 EXHT DUCT PRSS DP	LLL TORR	-40.95	40.95
	PD5064 EXHT DUCT PRSS	0.033 TORR	-4.095	4.095		PD5071 EXHT DUCT PRSS DP	0.042 TORR	-4.095	4.095
‼						FW5081 TOT H2O FLO TO EVP	27.0 PPH	-409.5	409.
	FW5082 H2O FLO TO FL EVAP	14.2 PPH	-409.5	409.5		FW5083 H2O FLO TO FL EVAP	14.2 PPH	-409.5	409.5
						WT5091 H2O TANK WEIGHT	97.8 LBS	-409.5	409.5
‼	HI5170 TOP OFF DUCT HTR 1	0.96 AMPS	-40.95	40.95		HI5172 TOP OFF DUCT HTR 3	2.26 AMPS	-40.95	40.
	HI5171 TOP OFF DUCT HTR 2	1.00 AMPS	-40.95	40.95		HI5173 TOP OFF DUCT HTR 4	2.69 AMPS	-40.95	40.95
‼	HI5174 R-ETY DT HTR PWR 1	1.84 AMPS	-40.95	40.95		HI5178 R-ETY DT HTR PWR 3	1.43 AMPS	-40.95	40.
	HI5175 R-ETY DT HTR PWR 2	1.74 AMPS	-40.95	40.95					
‼	HI5176 S S NOZZLE HTR	0.01 AMPS	-40.95	40.95		HI5177 S S NOZZLE HTR	0.01 AMPS	-40.95	40.
‼	FM5643 HI FL TO PRI VALV	2251 PPH	- 4095	4095		FM5649 HI FLOW TO SEC PNL	2252 PPH	- 4095	40
						FM5660 F21 TOTAL FLOW	4.48 KPPH	-40.95	40.95

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-MID-	---DESCRIPTION----	---VALUE---	----LIMITS----		-MID-	---DESCRIPTION----	---VALUE---	----LIMITS----	
TF5001	F-21 IN TO EVAP 1	72.3 DEGF	-409.5	409.5	TF5007	F-21 IN TO EVAP 2	70.0 DEGF	-409.5	409.5
TF5002	F-21 IN TO EVAP 1	70.6 DEGF	-409.5	409.5	TF5008	F-21 IN TO EVAP 2	71.5 DEGF	-409.5	409.5
TF5003	F-21 OUT OF EVAP 1	45.4 DEGF	-409.5	409.5	TF5009	F-21 OUT OF EVAP 2	44.5 DEGF	-409.5	409.5
TF5004	F-21 OUT OF EVAP 1	45.8 DEGF	-409.5	409.5	TF5010	F-21 OUT OF EVAP 2	44.5 DEGF	-409.5	409.5
TW5005	H2O IN TO EVAP 1	47.0 DEGF	-409.5	409.5	TW5011	H2O IN TO EVAP 2	48.3 DEGF	-409.5	409.5
TW5006	H2O IN TO EVAP 1	47.5 DEGF	-409.5	409.5	TW5012	H2O IN TO EVAP 2	47.9 DEGF	-409.5	409.5
TW5011	H2O IN TO EVAP 2	48.3 DEGF	-409.5	409.5	TD5017	EVAP EXH TOPOFF DT	140.9 DEGF	30.0	240.0
TW5012	H2O IN TO EVAP 2	47.9 DEGF	-409.5	409.5	TD5018	EVAP EXH TOPOFF DT	60.9 DEGF	30.0	240.0
* TD5013	EVAP EXH TOPOFF DT	28.2 DEGF	30.0	240.0	TD5019	EVAP EXH TOPOFF DT	210.0 DEGF	30.0	240.0
TD5014	EVAP EXH TOPOFF DT	33.9 DEGF	30.0	240.0	TD5020	EVAP EXH TOPOFF DT	91.1 DEGF	30.0	240.0
TD5015	EVAP EXH TOPOFF DT	74.8 DEGF	30.0	240.0	TD5021	EVAP EXH TOPOFF DT	230.0 DEGF	30.0	240.0
TD5016	EVAP EXH TOPOFF DT	85.7 DEGF	30.0	240.0	TD5022	EVAP EXH TOPOFF DT	203.9 DEGF	30.0	240.0
TD5023	EVAP RE-ENTRY DUCT	97.8 DEGF	30.0	240.0	TD5028	EVAP RE-ENTRY DUCT	41.1 DEGF	30.0	240.0
TD5024	EVAP RE-ENTRY DUCT	101.0 DEGF	30.0	240.0	TD5029	EVAP RE-ENTRY DUCT	39.7 DEGF	30.0	240.0
TD5025	EVAP RE-ENTRY DUCT	76.2 DEGF	30.0	240.0	TD5030	EVAP RE-ENTRY DUCT	39.7 DEGF	30.0	240.0
TD5026	EVAP RE-ENTRY DUCT	76.2 DEGF	30.0	240.0	TD5031	EVAP RE-ENTRY DUCT	45.4 DEGF	30.0	240.0
* TD5027	EVAP RE-ENTRY DUCT	28.2 DEGF	30.0	240.0					
TD5032	EVAP EXH RE-ENTRY	93.8 DEGF	30.0	240.0	TD5036	EVAP EXH RE-ENTRY	81.7 DEGF	30.0	240.0
TD5033	EVAP EXH RE-ENTRY	101.8 DEGF	30.0	240.0	TD5037	EVAP EXH RE-ENTRY	63.7 DEGF	30.0	240.0
TD5034	EVAP EXH RE-ENTRY	105.8 DEGF	30.0	240.0	TD5038	EVAP EXH RE-ENTRY	88.4 DEGF	30.0	240.0
TD5035	EVAP EXH RE-ENTRY	101.8 DEGF	30.0	240.0	TD5039	EVAP EXH RE-ENTRY	77.5 DEGF	30.0	240.0
					PN5051	H2O TK GN2 PRESS	26.7 PSI	-409.5	409.5
PF5052	F-21 DIF PRSS EV 1	9.9 PSID	-409.5	409.5	PF5053	F-21 DIF PRSS EV 2	10.8 PSID	-409.5	409.5
PW5054	H2O SUP PRSS TO EV	20.6 PSIA	-409.5	409.5	PW5055	H2O SUP PRSS TO EV	18.8 PSIA	-409.5	409.5
PE5056	EVAP 1 CHMBR PRSS	3.39 TORR	-40.95	40.95	PE5057	EVAP 2 CHMBR PRSS	3.82 TORR	-40.95	40.95
PD5058	EXHT DUCT PRSS DP	0.16 TORR	-40.95	40.95	* PD5065	EXHT DUCT PRSS DP	LLL TORR	-40.95	40.95
PD5059	EXHT DUCT PRSS DP	0.19 TORR	-40.95	40.95	PD5066	EXHT DUCT PRSS DP	0.01 TORR	-40.95	40.95
PD5060	EXHT DUCT PRSS DP	0.30 TORR	-40.95	40.95	PD5067	EXHT DUCT PRSS DP	0.57 TORR	-40.95	40.95
PD5061	EXHT DUCT PRSS	1.47 TORR	-40.95	40.95	PD5068	EXHT DUCT PRSS DP	0.52 TORR	-40.95	40.95
PD5062	EXHT DUCT PRSS	1.70 TORR	-40.95	40.95	PD5069	EXHT DUCT PRSS DP	0.63 TORR	-40.95	40.95
PD5063	EXHT DUCT PRSS	.3 TORR	-40.95	40.95	PD5070	EXHT DUCT PRSS DP	0.05 TORR	-40.95	40.95
PD5064	EXHT DUCT PRSS	0.080 TORR	-4.095	4.095	PD5071	EXHT DUCT PRSS DP	0.059 TORR	-4.095	4.095
					FW5081	TOT H2O FLO TO EVP	29.6 PPH	-409.5	409.5
FW5082	H2O FLO TO FL EVAP	14.5 PPH	-409.5	409.5	FW5083	H2O FLO TO FL EVAP	15.0 PPH	-409.5	409.5
					3091	H2O TANK WEIGHT	34.4 LBS	-409.5	409.5
HI5170	TOP OFF DUCT HTR 1	1.34 AMPS	-40.95	40.95	HI5172	TOP OFF DUCT HTR 3	3.17 AMPS	-40.95	40.95
HI5171	TOP OFF DUCT HTR 2	1.38 AMPS	-40.95	40.95	HI5173	TOP OFF DUCT HTR 4	3.47 AMPS	-40.95	40.95
HI5174	R-ETY DT HTR PWR 1	0.05 AMPS	-40.95	40.95	HI5178	R-ETY DT HTR PWR 3	0.00 AMPS	-40.95	40.95
HI5175	R-ETY DT HTR PWR 2	0.06 AMPS	-40.95	40.95					
HI5176	S S NOZZLE HTR	0.01 AMPS	-40.95	40.95	HI5177	S-S NOZZLE HTR	0.00 AMPS	-40.95	40.95
FM5643	HI FL TO PRI VALV	2251 PPH	4095	4095	FM5649	HI FLOW TO SEC PNL	2252 PPH	4095	4095
					FM5666	F21 TOTAL FLOW	4.54 KPPH	-40.95	40.95

T/. 21. (BACK TO MAIN MCE)

	TF5001 F-21 IN TO EVAP 1	73.1 DEGF	-409.5	409.5		TF5007 F-21 IN TO EVAP 2	70.6 DEGF	-409.5	409
	TF5002 F-21 IN TO EVAP 1	71.9 DEGF	-409.5	409.5		TF5008 F-21 IN TO EVAP 2	71.6 DEGF	-409.5	409.5
	TF5003 F-21 OUT OF EVAP 1	47.0 DEGF	-409.5	409.5		TF5009 F-21 OUT OF EVAP 2	46.2 DEGF	-409.5	409.5
	TF5004 F-21 OUT OF EVAP 1	47.5 DEGF	-409.5	409.5		TF5010 F-21 OUT OF EVAP 2	46.2 DEGF	-409.5	409.5
	TW5005 H20 IN TO EVAP 1	79.4 DEGF	-409.5	409.5		TW5011 H20 IN TO EVAP 2	80.2 DEGF	-409.5	409.5
	TW5006 H20 IN TO EVAP 1	79.4 DEGF	-409.5	409.5		TW5012 H20 IN TO EVAP 2	80.2 DEGF	-409.5	409.5
	TW5011 H20 IN TO EVAP 2	80.2 DEGF	-409.5	409.5		TD5017 EVAP EXH TOPOFF DT	131.9 DEGF	30.0	240
	TW5012 H20 IN TO EVAP 2	80.2 DEGF	-409.5	409.5		TD5018 EVAP EXH TOPOFF DT	72.0 DEGF	30.0	240.0
#	TD5013 EVAP EXH TOPOFF DT	26.7 DEGF	30.0	240.0		TD5019 EVAP EXH TOPOFF DT	206.9 DEGF	30.0	240.0
#	TD5014 EVAP EXH TOPOFF DT	29.6 DEGF	30.0	240.0		TD5020 EVAP EXH TOPOFF DT	107.1 DEGF	30.0	240.0
	TD5015 EVAP EXH TOPOFF DT	46.9 DEGF	30.0	240.0		TD5021 EVAP EXH TOPOFF DT	234.7 DEGF	30.0	240.0
	TD5016 EVAP EXH TOPOFF DT	45.1 DEGF	30.0	240.0		TD5022 EVAP EXH TOPOFF DT	203.9 DEGF	30.0	240.0
	TD5023 EVAP RE-ENTRY DUCT	111.2 DEGF	30.0	240.0		TD5028 EVAP RE-ENTRY DUCT	38.2 DEGF	30.0	240
	TD5024 EVAP RE-ENTRY DUCT	115.1 DEGF	30.0	240.0		TD5029 EVAP RE-ENTRY DUCT	44.0 DEGF	30.0	240.0
	TD5025 EVAP RE-ENTRY DUCT	99.7 DEGF	30.0	240.0		TD5030 EVAP RE-ENTRY DUCT	36.8 DEGF	30.0	240.0
	TD5026 EVAP RE-ENTRY DUCT	87.1 DEGF	30.0	240.0		TD5031 EVAP RE-ENTRY DUCT	44.0 DEGF	30.0	240.0
#	TD5027 EVAP RE-ENTRY DUCT	26.3 DEGF	30.0	240.0					
	TD5032 EVAP EXH RE-ENTRY	77.5 DEGF	30.0	240.0		TD5036 EVAP EXH RE-ENTRY	69.2 DEGF	30.0	240
	TD5033 EVAP EXH RE-ENTRY	81.7 DEGF	30.0	240.0		TD5037 EVAP EXH RE-ENTRY	52.8 DEGF	30.0	240.0
	TD5034 EVAP EXH RE-ENTRY	83.0 DEGF	30.0	240.0		TD5038 EVAP EXH RE-ENTRY	74.8 DEGF	30.0	240.0
	TD5035 EVAP EXH RE-ENTRY	81.7 DEGF	30.0	240.0		TD5039 EVAP EXH RE-ENTRY	42.6 DEGF	30.0	240.0
						PW5051 H20 TK GN2 PRESS	27.3 PSI	-409.5	409
	PF5052 F-21 DIF PRSS EV 1	9.8 PSID	-409.5	409.5		PF5053 F-21 DIF PRSS EV 2	11.0 PSID	-409.5	409.5
	PW5054 H20 SUP PRSS TO EV	21.5 PSIA	-409.5	409.5		PW5055 H20 SUP PRSS TO EV	20.0 PSIA	-409.5	409.5
	PE5056 EVAP 1 CHMBR PRSS	3.31 TORR	-40.95	40.95		PE5057 EVAP 2 CHMBR PRSS	3.70 TORR	-40.95	40.95
	PD5058 EXHT DUCT PRSS DP	0.21 TORR	-40.95	40.95	#	PD5065 EXHT DUCT PRSS DP	LLL TORR	-40.95	40.95
	PD5059 EXHT DUCT PRSS DP	0.32 TORR	-40.95	40.95		PD5066 EXHT DUCT PRSS DP	0.01 TORR	-40.95	40.95
	PD5040 EXHT DUCT PRSS DP	0.38 TORR	-40.95	40.95		PD5067 EXHT DUCT PRSS DP	0.58 TORR	-40.95	40.95
	PD5041 EXHT DUCT PRSS	1.47 TORR	-40.95	40.95		PD5068 EXHT DUCT PRSS DP	0.52 TORR	-40.95	40.95
	PD5042 EXHT DUCT PRSS	1.63 TORR	-40.95	40.95		PD5069 EXHT DUCT PRSS DP	0.61 TORR	-40.95	40.95
	PD5043 EXHT DUCT PRSS	1.63 TORR	-40.95	40.95		PD5070 EXHT DUCT PRSS DP	0.09 TORR	-40.95	40.95
	PD5044 EXHT DUCT PRSS	0.082 TORR	-4.095	4.095		PD5071 EXHT DUCT PRSS DP	0.059 TORR	-4.095	4.095
	FW5082 H20 FLO TO FL EVAP	14.5 PPH	-409.5	409.5		FW5081 TOT H20 FLO TO EVP	28.9 PPH	-409.5	409.5
						FW5083 H20 FLO TO FL EVAP	15.0 PPH	-409.5	409.5
						WT5091 H20 TANK WEIGHT	119.2 LBS	-409.5	409.5
	HI5170 TOP OFF DUCT HTR 1	1.33 AMPS	-40.95	40.95		HI5172 TOP OFF DUCT HTR 3	3.19 AMPS	-40.95	40.
	HI5171 TOP OFF DUCT HTR 2	1.38 AMPS	-40.95	40.95		HI5173 TOP OFF DUCT HTR 4	3.52 AMPS	-40.95	40.95
	HI5174 R-ETY DT HTR PWR 1	0.03 AMPS	-40.95	40.95		HI5178 R-ETY DT HTR PWR 3	0.00 AMPS	-40.95	40.
	HI5175 R-ETY DT HTR PWR 2	0.06 AMPS	-40.95	40.95					
	HI5176 S S NOZZLE HTR	0.01 AMPS	-40.95	40.95		HI5177 S S NOZZLE HTR	0.00 AMPS	-40.95	40.
	FW5643 HI FL TO PRI VALV	2251 PPH	-4095	4095		FW5649 HI FLOW TO SEC PNL	2252 PPH	-4095	40
						FW5660 F21 TOTAL FLOW	4.54 KPPH	-40.95	40.95

-MID-	-DESCRIPTION-	-VALUE-	-LIMITS-		-MID-	-DESCRIPTION-	-VALUE-	-LIMITS-	
‡‡	ZD5201 INST HT RJCT EV 1	14.4 KBTU	-409.5	409.5		ZD5202 INST HT RJCT EV 2	14.0 KBTU	-409.5	409
						ZD5203 INSTANT HEAT RJCT	28.4 KBTU	-409.5	409.5
‡‡	ZD5211 TOT HT RJCT EVP 1	7.3 KBTU	-409.5	409.5		ZD5212 TOT HT RJCT EVP 2	7.2 KBTU	-409.5	409
						ZD5213 TOT HT RJCT	14.5 KBTU	-409.5	409.5
‡‡	ZW5221 TOT WATR FLW EV 1	7.6 LBS	-409.5	409.5		ZW5222 TOT WATR FLW EV 2	7.7 LBS	-409.5	409
						ZW5223 TOT WATR FLW	15.3 LBS	-409.5	409.5
						ZW5224 WATR TNK DIFF WT.	14.2 LBS	-409.5	409.5
‡‡*	ZE5231 SIG EVE TOT EVP 1	30.7 MIN	-409.5	409.5	*	ZE5232 SIG EVE TOT EVP 2	30.7 MIN	-409.5	409
					*	ZE5234 TOTAL TEST TIME	30.7 MIN	-409.5	409.5
‡‡	ZD5241 AVG HT LOAD EVP 1A	14.2 KBTU	-409.5	409.5		ZD5242 AVG HT LOAD EVP 2A	14.0 KBTU	-409.5	409
						ZD5243 AVG HT LOAD A	28.3 KBTU	-409.5	409.5
‡‡	ZD5251 AVG HT LOAD EVP 1B	0.0 KBTU	-409.5	409.5		ZD5252 AVG HT LOAD EVP 2B	0.0 KBTU	-409.5	409
						ZD5253 AVG HT LOAD B	0.0 KBTU	-409.5	409.5
‡‡‡	ZF5261 AVG WATR USE EV 1	14.9 LBSH	-409.5	409.5		ZF5262 AVG WATR USE EV 2	15.1 LBSH	-409.5	40
						ZF5263 AVG WATR USE A	29.9 LBSH	-409.5	409.5
						ZF5264 AVG WATR USE B	27.8 LBSH	-409.5	409.5
‡‡	ZH5271 AVG ENT CHNG EV 1	956 BTUP	- 4095	4095		ZH5272 AVG ENT CHNG EV 2	933 BTUP	- 4095	40
						ZH5273 AVG ENTP CHNG A	945 BTUP	- 4095	4095
						ZH5261 AVG ENTP CHNG B	1019 BTUP	- 4095	4095
‡‡‡	ZT5301 MIN F-21 OUT TEM 1	45.4 DEGF	-409.5	409.5		ZT5302 MIN F-21 OUT TEM 2	45.4 DEGF	-409.5	40
#	ZT5311 MAX F-21 OUT TEM 1	RRR DEGF	-409.5	409.5	#	ZT5312 MAX F-21 OUT TEM 2	RRR DEGF	-409.5	409.5
‡‡	ZD5321 TP-OF DT HTR PWR 1	71.5 WATT	-409.5	409.5		ZD5351 TP-OFF DUCT 1 AVG	49.5 DEGF	-409.5	409
	ZD5322 TP-OF DT HTR PWR 2	57.5 WATT	-409.5	409.5		ZD5352 TP-OFF DUCT 2 AVG	42.1 DEGF	-409.5	409.5
	ZD5323 TP-OF DT HTR PWR 3	183.9 WATT	-409.5	409.5		ZD5353 TP-OFF DUCT 3 AVG	168.3 DEGF	-409.5	409.5
	ZD5324 TP-OF DT HTR PWR 4	161.1 WATT	-409.5	409.5		ZD5354 TP-OFF DUCT 4 AVG	134.4 DEGF	-409.5	409.5
	ZD5331 R-ETY DT HTR PWR 1	0.1 WATT	-409.5	409.5		ZD5355 R-ETRY DUCT 1 AVG	35.7 DEGF	-409.5	409.5
	ZD5332 R-ETY DT HTR PWR 2	0.0 WATT	-409.5	409.5		ZD5356 R-ETRY DUCT 2 AVG	64.3 DEGF	-409.5	409.5
	ZD5333 R-ETY DT HTR PWR 3	0.0 WATT	-409.5	409.5		ZD5359 R-ETRY DUCT 3 AVG	81.7 DEGF	-409.5	409.5
	ZW5341 S S NOZ HTR PWR	0.0 WATT	-409.5	409.5		ZW5357 SS NOZZLE 1 AVG	113.2 DEGF	-409.5	409.5
	ZW5342 S S NOZ HTR PWR	0.0 WATT	-409.5	409.5		ZW5358 SS NOZZLE 2 AVG	88.4 DEGF	-409.5	409.5
‡‡	TM5403 MSFC ASPS TEMP 1	34.8 DEGF	-409.5	409.5		TM5404 MSFC ASPS TEMP 2	24.0 DEGF	-409.5	409
#	TF5501 P FLO CONT VLV IN	LLL DEGF	-409.5	409.5	#	TF5506 S FLO CONT VLV IN	UUU DEGF	-409.5	409.5
#	TF5529 P CON OUT MIX CH	UUU DEGF	-409.5	409.5	#	TF5530 S CON OUT MIX CH	UUU DEGF	-409.5	409.5
#	TF5529 P CON OUT MIX CH	UUU DEGF	-409.5	409.5	#	TF5531 S CON OUT MIX CH	UUU DEGF	-409.5	409.5
‡‡	FM5443 HI FL TO PRI VALV	2251 PPH	- 4095	4095		FM5849 HI FLOW TO SEC PNL	2252 PPH	- 4095	40

AGE 01 CSU IR/EVAP SCOOP (0005) CHAMBER A DAY 114, 10 HRS. 56 MIN. 19 SEC

-MID-	---DESCRIPTION----	---VALUE---	----LIMITS----		-MID-	---DESCRIPTION----	---VALUE---	----LIMITS----	
#	TF5001 F-21 IN TO EVAP 1	69.8 DEGF	-409.5	409.5		TF5007 F-21 IN TO EVAP 2	69.8 DEGF	-409.5	409
	TF5002 F-21 IN TO EVAP 1	68.2 DEGF	-409.5	409.5		TF5008 F-21 IN TO EVAP 2	70.2 DEGF	-409.5	409.5
	TF5003 F-21 OUT OF EVAP 1	46.2 DEGF	-409.5	409.5		TF5004 F-21 OUT OF EVAP 2	44.6 DEGF	-409.5	409.5
	TF5004 F-21 OUT OF EVAP 1	46.6 DEGF	-409.5	409.5		TF5010 F-21 OUT OF EVAP 2	47.0 DEGF	-409.5	409.5
	TW5005 H2O IN TO EVAP 1	99.2 DEGF	-409.5	409.5		TW5011 H2O IN TO EVAP 2	100.3 DEGF	-409.5	409.5
	TW5006 H2O IN TO EVAP 1	99.2 DEGF	-409.5	409.5		TW5012 H2O IN TO EVAP 2	99.9 DEGF	-409.5	409.5
#	TW5011 H2O IN TO EVAP 2	100.3 DEGF	-409.5	409.5		TD5017 EVAP EXH TOPOFF DT	112.5 DEGF	30.0	240
	TW5012 H2O IN TO EVAP 2	99.9 DEGF	-409.5	409.5		TD5018 EVAP EXH TOPOFF DT	73.4 DEGF	30.0	240.0
	TD5013 EVAP EXH TOPOFF DT	33.9 DEGF	30.0	240.0		TD5019 EVAP EXH TOPOFF DT	144.8 DEGF	30.0	240.0
	TD5014 EVAP EXH TOPOFF DT	35.4 DEGF	30.0	240.0		TD5020 EVAP EXH TOPOFF DT	112.5 DEGF	30.0	240.0
	TD5015 EVAP EXH TOPOFF DT	112.5 DEGF	30.0	240.0		TD5021 EVAP EXH TOPOFF DT	196.4 DEGF	30.0	240.0
	TD5016 EVAP EXH TOPOFF DT	93.8 DEGF	30.0	240.0		TD5022 EVAP EXH TOPOFF DT	146.0 DEGF	30.0	240.0
#	TD5023 EVAP RE-ENTRY DUCT	112.5 DEGF	30.0	240.0		TD5028 EVAP RE-ENTRY DUCT	42.5 DEGF	30.0	240
	TD5024 EVAP RE-ENTRY DUCT	117.7 DEGF	30.0	240.0		TD5029 EVAP RE-ENTRY DUCT	42.5 DEGF	30.0	240.0
	TD5025 EVAP RE-ENTRY DUCT	83.0 DEGF	30.0	240.0		TD5030 EVAP RE-ENTRY DUCT	42.5 DEGF	30.0	240.0
	TD5026 EVAP RE-ENTRY DUCT	83.0 DEGF	30.0	240.0		TD5031 EVAP RE-ENTRY DUCT	46.0 DEGF	30.0	240.0
	TD5027 EVAP RE-ENTRY DUCT	42.5 DEGF	30.0	240.0					
	TD5032 EVAP EXH RE-ENTRY	31.0 DEGF	30.0	240.0	#	TD5036 EVAP EXH RE-ENTRY	28.2 DEGF	30.0	240
	TD5033 EVAP EXH RE-ENTRY	29.6 DEGF	30.0	240.0		TD5037 EVAP EXH RE-ENTRY	107.1 DEGF	30.0	240.0
	TD5034 EVAP EXH RE-ENTRY	26.7 DEGF	30.0	240.0		TD5038 EVAP EXH RE-ENTRY	138.3 DEGF	30.0	240.0
	TD5035 EVAP EXH RE-ENTRY	23.8 DEGF	30.0	240.0		TD5039 EVAP EXH RE-ENTRY	124.1 DEGF	30.0	240.0
						PW5051 H2O TK GN2 PRESS	32.6 PSI	-409.5	409
	PF5052 F-21 DIF PRSS EV 1	10.0 PSID	-409.5	409.5		PF5053 F-21 DIF PRSS EV 2	10.9 PSID	-409.5	409.5
	PW5054 H2O SUP PRSS TO EV	26.3 PSIA	-409.5	409.5		PW5055 H2O SUP PRSS TO EV	23.1 PSIA	-409.5	409.5
	PE5056 EVAP 1 CHMBR PRSS	3.15 TORR	-40.95	40.95		PE5057 EVAP 2 CHMBR PRSS	3.27 TORR	-40.95	40.95
	PD5058 EXHT DUCT PRSS DP	0.18 TORR	-40.95	40.95	#	PD5065 EXHT DUCT PRSS DP	LLL TORR	-40.95	40.
	PD5059 EXHT DUCT PRSS DP	0.18 TORR	-40.95	40.95		PD5066 EXHT DUCT PRSS DP	0.01 TORR	-40.95	40.95
	PD5060 EXHT DUCT PRSS DP	0.32 TORR	-40.95	40.95		PD5067 EXHT DUCT PRSS DP	0.57 TORR	-40.95	40.95
	PD5061 EXHT DUCT PRSS	1.39 TORR	-40.95	40.95		PD5068 EXHT DUCT PRSS DP	0.59 TORR	-40.95	40.95
	PD5062 EXHT DUCT PRSS	1.59 TORR	-40.95	40.95		PD5069 EXHT DUCT PRSS DP	0.59 TORR	-40.95	40.95
	PD5063 EXHT DUCT PRSS	1.55 TORR	-40.95	40.95		PD5070 EXHT DUCT PRSS DP	0.04 TORR	-40.95	40.95
	PD5064 EXHT DUCT PRSS	0.065 TORR	-4.095	4.095		PD5071 EXHT DUCT PRSS DP	0.057 TORR	-4.095	4.095
						FW5081 TOT H2O FLO TO EVP	28.2 PPH	-409.5	409
	FW5082 H2O FLO TO FL EVAP	14.0 PPH	-409.5	409.5		FW5083 H2O FLO TO FL EVAP	14.5 PPH	-409.5	409.5
						WT5091 H2O TANK WEIGHT	110.9 LBS	-409.5	409.5
	HI5170 TOP OFF DUCT HTR 1	2.09 AMPS	-40.95	40.95		HI5172 TOP OFF DUCT HTR 3	1.11 AMPS	-40.95	40.
	HI5171 TOP OFF DUCT HTR 2	2.42 AMPS	-40.95	40.95		HI5173 TOP OFF DUCT HTR 4	1.19 AMPS	-40.95	40.95
	HI5174 R-ETY DT HTR PWR 1	0.03 AMPS	-40.95	40.95		HI5178 R-ETY DT HTR PWR 3	0.02 AMPS	-40.95	40.
	HI5175 R-ETY DT HTR PWR 2	- 0.06 AMPS	-40.95	40.95					
	HI5176 S S NOZZLE HTR	0.01 AMPS	-40.95	40.95		HI5177 S S NOZZLE HTR	0.00 AMPS	-40.95	40.
	FW5643 HI FL TO PRI VALV	2251 PPH	- 4095	4095		FW5649 HI FLOW TO SEC PNL	2264 PPH	- 4095	40
						FW5660 F21 TOTAL FLOW	4.54 KPPH	-40.95	40.95

-MID-	---DESCRIPTION----	---VALUE---	----LIMITS----				
ZQ5201	INST HT RJCT EV 1	12.8 KBTU	-409.5	409.5	ZQ5202	INST HT RJCT EV 2	13.0 KBTU	-409.5	409.5
					ZQ5203	INSTANT HEAT RJCT	25.8 KBTU	-409.5	409.5
ZQ5211	TOT HT RJCT EVP 1	10.8 KBTU	-409.5	409.5	ZQ5212	TOT HT RJCT EVP 2	[illegible] KBTU	-409.5	409
					ZQ5213	TOT HT RJCT	21.8 KBTU	-409.5	409.5
ZW5221	TOT WATR FLW EV 1	11.8 LBS	-409.5	409.5	ZW5222	TOT WATR FLW EV 2	12.2 LBS	-409.5	409
					ZW5223	TOT WATR FLW	24.1 LBS	-409.5	409.5
					ZW5224	WATR TNK DIFF WT	23.1 LBS	-409.5	409.5
* ZE5231	SIG EVE TOT EVP 1	49.2 MIN	-409.5	409.5	* ZE5232	SIG EVE TOT EVP 2	49.2 MIN	-409.5	409
					* ZE5234	TOTAL TEST TIME	49.3 MIN	-409.5	409.5
ZQ5241	AVG HT LOAD EVP 1A	13.1 KBTU	-409.5	409.5	ZQ5242	AVG HT LOAD EVP 2A	13.3 KBTU	-409.5	409
					ZQ5243	AVG HT LOAD A	26.6 KBTU	-409.5	409.5
ZQ5251	AVG HT LOAD EVP 1B	0.0 KBTU	-409.5	409.5	ZQ5252	AVG HT LOAD EVP 2B	0.0 KBTU	-409.5	409
					ZQ5253	AVG HT LOAD B	0.0 KBTU	-409.5	409.5
ZF5261	AVG WATR USE EV 1	14.4 LBSH	-409.5	409.5	ZF5262	AVG WATR USE EV 2	14.9 LBSH	-409.5	409
					ZF5263	AVG WATR USE A	29.3 LBSH	-409.5	409.5
					ZF5264	AVG WATR USE B	28.1 LBSH	-409.5	409.5
ZH5271	AVG ENT CHNG EV 1	912 BTUP	- 4095	4095	ZH5272	AVG ENT CHNG EV 2	886 BTUP	- 4095	4095
					ZH5273	AVG ENTP CHNG A	900 BTUP	- 4095	4095
					ZH5281	AVG ENTP CHNG B	937 BTUP	- 4095	4095
ZT5301	MIN F-21 OUT TEM 1	45.0 DEGF	-409.5	409.5	ZT5302	MIN F-21 OUT TEM 2	45.4 DEGF	-409.5	409
ZT5311	MAX F-21 OUT TEM 1	47.5 DEGF	-409.5	409.5	ZT5312	MAX F-21 OUT TEM 2	47.6 DEGF	-409.5	409.5
ZQ5321	TP-OF DT HTR PWR 1	179.3 WATT	-409.5	409.5	ZQ5351	TP-OFF DUCT 1 AVG	99.3 DEGF	-409.5	409
ZQ5322	TP-OF DT HTR PWR 2	182.0 WATT	-409.5	409.5	ZQ5352	TP-OFF DUCT 2 AVG	84.6 DEGF	-409.5	409.5
ZQ5323	TP-OF DT HTR PWR 3	21.9 WATT	-409.5	409.5	ZQ5353	TP-OFF DUCT 3 AVG	145.5 DEGF	-409.5	409.5
ZQ5324	TP-OF DT HTR PWR 4	18.2 WATT	-409.5	409.5	ZQ5354	TP-OFF DUCT 4 AVG	117.0 DEGF	-409.5	409.5
ZQ5331	R-ETY DT HTR PWR 1	0.1 WATT	-409.5	409.5	ZQ5355	R-ETRY DUCT 1 AVG	42.9 DEGF	-409.5	409.5
ZQ5332	R-ETY DT HTR PWR 2	0.0 WATT	-409.5	409.5	ZQ5356	R-ETRY DUCT 2 AVG	35.4 DEGF	-409.5	409.5
ZQ5333	R-ETY DT HTR PWR 3	0.0 WATT	-409.5	409.5	ZQ5359	R-ETRY DUCT 3 AVG	29.2 DEGF	-409.5	409.5
ZN5341	S S NOZ HTR PWR	0.0 WATT	-409.5	409.5	ZN5357	SS NOZZLE 1 AVG	114.5 DEGF	-409.5	409.5
ZN5342	S S NOZ HTR PWR	0.0 WATT	-409.5	409.5	ZN5358	SS NOZZLE 2 AVG	83.0 DEGF	-409.5	409.5
* TM5403	MSFC ASPS TEMP 1	34.8 DEGF	-409.5	409.5	TM5404	MSFC ASPS TEMP 2	28.5 DEGF	-409.5	409
TF5501	P FLO CONT VLV IN	LLL DEGF	-409.5	409.5	TF5506	S FLO CONT VLV IN	156.0 DEGF	-409.5	409.5
TF5528	P CON OUT MIX CH	UUU DEGF	-409.5	409.5	TF5530	S CON OUT MIX CH	UUU DEGF	-409.5	409.5
TF5529	P CON OUT MIX H	UUU DEGF	-409.5	409.5	# TF5531	S CON OUT MIX CH	UUU DEGF	-409.5	409.5
* FM5643	HI FL TO PRI VALV	2251 PPH	- 4095	4095	FM5649	HI FLOW TO SEC PNL	2264 PPH	- 4095	40

MID	DESCRIPTION	VALUE	LIMITS		MID	DESCRIPTION	VALUE	LIMITS	
‡‡	TF5001 F-21 IN TO EVAP 1	69.4 DEGF	-409.5	409.5		TF5007 F-21 IN TO EVAP 2	69.4 DEGF	-409.5	409
	TF5002 F-21 IN TO EVAP 1	67.8 DEGF	-409.5	409.5		TF5008 F-21 IN TO EVAP 2	69.8 DEGF	-409.5	409.5
	TF5003 F-21 OUT OF EVAP 1	45.8 DEGF	-409.5	409.5		TF5009 F-21 OUT OF EVAP 2	45.8 DEGF	-409.5	409.5
	TF5004 F-21 OUT OF EVAP 1	45.8 DEGF	-409.5	409.5		TF5010 F-21 OUT OF EVAP 2	46.2 DEGF	-409.5	409.5
	TW5005 H2O IN TO EVAP 1	124.5 DEGF	-409.5	409.5		TW5011 H2O IN TO EVAP 2	126.0 DEGF	-409.5	409.5
	TW5006 H2O IN TO EVAP 1	124.9 DEGF	-409.5	409.5		TW5012 H2O IN TO EVAP 2	125.6 DEGF	-409.5	409.5
‡‡	TW5011 H2O IN TO EVAP 2	126.0 DEGF	-409.5	409.5		TD5017 EVAP EXH TOPOFF DT	45.4 DEGF	30.0	240
	TW5012 H2O IN TO EVAP 2	125.6 DEGF	-409.5	409.5		TD5018 EVAP EXH TOPOFF DT	31.0 DEGF	30.0	240.0
	TD5013 EVAP EXH TOPOFF DT	32.5 DEGF	30.0	240.0		TD5019 EVAP EXH TOPOFF DT	60.9 DEGF	30.0	240.0
	TD5014 EVAP EXH TOPOFF DT	42.5 DEGF	30.0	240.0		TD5020 EVAP EXH TOPOFF DT	73.4 DEGF	30.0	240.0
	TD5015 EVAP EXH TOPOFF DT	56.8 DEGF	30.0	240.0		TD5021 EVAP EXH TOPOFF DT	96.4 DEGF	30.0	240.0
	TD5016 EVAP EXH TOPOFF DT	46.9 DEGF	30.0	240.0		TD5022 EVAP EXH TOPOFF DT	77.5 DEGF	30.0	240.0
‡‡	TD5023 EVAP RE-ENTRY DUCT	72.0 DEGF	30.0	240.0		TD5028 EVAP RE-ENTRY DUCT	45.4 DEGF	30.0	240
	TD5024 EVAP RE-ENTRY DUCT	77.5 DEGF	30.0	240.0		TD5029 EVAP RE-ENTRY DUCT	42.5 DEGF	30.0	240.0
	TD5025 EVAP RE-ENTRY DUCT	33.9 DEGF	30.0	240.0		TD5030 EVAP RE-ENTRY DUCT	44.0 DEGF	30.0	240.0
	TD5026 EVAP RE-ENTRY DUCT	36.8 DEGF	30.0	240.0		TD5031 EVAP RE-ENTRY DUCT	46.0 DEGF	30.0	240.0
#	TD5027 EVAP RE-ENTRY DUCT	29.6 DEGF	30.0	240.0					
‡‡	TD5032 EVAP EXH RE-ENTRY	93.8 DEGF	30.0	240.0		TD5036 EVAP EXH RE-ENTRY	97.8 DEGF	30.0	240
	TD5033 EVAP EXH RE-ENTRY	87.1 DEGF	30.0	240.0		TD5037 EVAP EXH RE-ENTRY	97.5 DEGF	30.0	240.0
	TD5034 EVAP EXH RE-ENTRY	59.5 DEGF	30.0	240.0		TD5038 EVAP EXH RE-ENTRY	101.8 DEGF	30.0	240.0
	TD5035 EVAP EXH RE-ENTRY	52.6 DEGF	30.0	240.0		TD5039 EVAP EXH RE-ENTRY	65.1 DEGF	30.0	240.0
‡‡						PW5051 H2O TK GN2 PRESS	37.5 PSI	-409.5	409
	PE5052 F-21 DIF PRSS EV 1	10.3 PSID	-409.5	409.5		PE5053 F-21 DIF PRSS EV 2	11.0 PSID	-409.5	409.5
	PW5054 H2O SUP PRSS TO EV	30.6 PSIA	-409.5	409.5		PW5055 H2O SUP PRSS TO EV	24.1 PSIA	-409.5	409.5
	PE5056 EVAP 1 CHMBR PRSS	3.11 TORR	-40.95	40.95		PE5057 EVAP 2 CHMBR PRSS	2.94 TORR	-40.95	40.95
‡‡	PD5058 EXHT DUCT PRSS DP	0.19 TORR	-40.95	40.95		PD5065 EXHT DUCT PRSS DP	0.62 TORR	-40.95	40.
	PD5059 EXHT DUCT PRSS DP	0.18 TORR	-40.95	40.95		PD5066 EXHT DUCT PRSS DP	0.01 TORR	-40.95	40.95
	PD5060 EXHT DUCT PRSS DP	0.31 TORR	-40.95	40.95		PD5067 EXHT DUCT PRSS DP	0.50 TORR	-40.95	40.95
	PD5061 EXHT DUCT PRSS	1.43 TORR	-40.95	40.95		PD5068 EXHT DUCT PRSS DP	0.46 TORR	-40.95	40.95
	PD5062 EXHT DUCT PRSS	1.59 TORR	-40.95	40.95		PD5069 EXHT DUCT PRSS DP	0.62 TORR	-40.95	40.95
	PD5063 EXHT DUCT PRSS	1.51 TORR	-40.95	40.95		PD5070 EXHT DUCT PRSS DP	0.07 TORR	-40.95	40.95
	PD5064 EXHT DUCT PRSS	0.087 TORR	-4.095	4.095		PD5071 EXHT DUCT PRSS DP	0.061 TORR	-4.095	4.095
‡‡						FW5081 TOT H2O FLO TO EVP	29.6 PPH	-409.5	409
	FW5082 H2O FLO TO FL EVAP	15.0 PPH	-409.5	409.5		FW5083 H2O FLO TO FL EVAP	15.2 PPH	-409.5	409.5
						WT5091 H2O TANK WEIGHT	119.8 LBS	-409.5	409.5
‡‡	HI5170 TOP OFF DUCT HTR 1	2.09 AMPS	-40.95	40.95		HI5172 TOP OFF DUCT HTR 3	1.23 AMPS	-40.95	40.
	HI5171 TOP OFF DUCT HTR 2	2.42 AMPS	-40.95	40.95		HI5173 TOP OFF DUCT HTR 4	1.34 AMPS	-40.95	40.95
‡‡	HI5174 R-ETY DT HTR PWR 1	1.69 AMPS	-40.95	40.95		HI5178 R-ETY DT HTR PWR 3	1.32 AMPS	-40.95	40.
	HI5175 R-ETY DT HTR PWR 2	1.63 AMPS	-40.95	40.95					
‡‡	HI5176 S S NOZZLE HTR	0.01 AMPS	-40.95	40.95		HI5177 S S NOZZLE HTR	0.00 AMPS	-40.95	40.
‡‡	FW5643 HI FL TO PRI VALV	2251 PPH	- 4095	4095		FW5644 HI FLOW TO SEC PNL	2252 PPH	- 4095	40
						FW5660 F21 TOTAL FLOW	4.27 KPPH	-40.95	40.95

TVP 23 Computer Down Between 13:20 and 13:44

-MI---	---DESCRIPTION----	---VALUE---	----LIMITS----		-MI---	---DESCRIPTION----	---VALUE---	----LIMITS----	
	ZQ5201 INST HT RJCT EV 1	13.0 KBTU	-409.5	409.5		ZQ5202 INST HT RJCT EV 2	13.2 KBTU	-409.5	409.5
						ZQ5203 INSTANT HEAT RJCT	26.2 KBTU	-409.5	409.5
‡‡	ZQ5211 TOT HT RJCT EVP 1	4.4 KBTU	-409.5	409.5		ZQ5212 TOT HT RJCT EVP 2	4.4 KBTU	-409.5	409
						ZQ5213 TOT HT RJCT	8.9 KBTU	-409.5	409.5
‡‡	ZW5221 TOT WATR FLW EV 1	5.1 LBS	-409.5	409.5		ZW5222 TOT WATR FLW EV 2	5.1 LBS	-409.5	409
						ZW5223 TOT WATR FLW	10.2 LBS	-409.5	409.5
						ZW5224 WATR TNK DIFF WT.	- 61.7 LBS	-409.5	409.5
‡‡	ZE5231 SIG EVE TOT EVP 1	20.1 MIN	-409.5	409.5	*	ZE5232 SIG EVE TOT EVP 2	20.1 MIN	-409.5	409
					*	ZE5234 TOTAL TEST TIME	20.1 MIN	-409.5	409.5
‡‡	ZQ5241 AVG HT LOAD EVP 1A	13.3 KBTU	-409.5	409.5		ZQ5242 AVG HT LOAD EVP 2A	13.3 KBTU	-409.5	409
						ZQ5243 AVG HT LOAD A	26.5 KBTU	-409.5	409.5
‡‡	ZQ5251 AVG HT LOAD EVP 1B	0.0 KBTU	-409.5	409.5		ZQ5252 AVG HT LOAD EVP 2B	0.0 KBTU	-409.5	409
						ZQ5253 AVG HT LOAD B	0.0 KBTU	-409.5	409.5
‡‡	ZF5261 AVG WATR USE EV 1	15.2 LBSH	-409.5	409.5		ZF5262 AVG WATR USE EV 2	15.3 LBSH	-409.5	409
						ZF5263 AVG WATR USE A	30.5 LBSH	-409.5	409.5
						ZF5264 AVG WATR USE B	-184.5 LBSH	-409.5	409.5
‡‡	ZH5271 AVG ENT CHNG EV 1	873 BTUP	- 4095	4095		ZH5272 AVG ENT CHNG EV 2	869 BTUP	- 4095	40
						ZH5273 AVG ENTR CHNG A	871 BTUP	- 4095	4095
						ZH5281 AVG ENTR CHNG B	144 BTUP	- 4095	4095
‡‡	ZT5301 MIN F-21 OUT TEM 1	45.4 DEGF	-409.5	409.5		ZT5302 MIN F-21 OUT TEM 2	45.4 DEGF	-409.5	409
	ZT5311 MAX F-21 OUT TEM 1	47.5 DEGF	-409.5	409.5		ZT5312 MAX F-21 OUT TEM 2	47.0 DEGF	-409.5	409.5
‡‡	ZQ5321 TP-OF DT HTR PWR 1	177.6 WATT	-409.5	409.5		ZQ5351 TP-OFF DUCT 1 AVG	69.8 DEGF	-409.5	409
	ZQ5322 TP-OF DT HTR PWR 2	179.0 WATT	-409.5	409.5		ZQ5352 TP-OFF DUCT 2 AVG	55.6 DEGF	-409.5	409.5
	ZQ5323 TP-OF DT HTR PWR 3	23.1 WATT	-409.5	409.5		ZQ5353 TP-OFF DUCT 3 AVG	73.6 DEGF	-409.5	409.5
	ZQ5324 TP-OF DT HTR PWR 4	20.7 WATT	-409.5	409.5		ZQ5354 TP-OFF DUCT 4 AVG	51.1 DEGF	-409.5	409.5
	ZQ5331 R-ETY DT HTR PWR 1	39.8 WATT	-409.5	409.5		ZQ5355 R-ETHY DUCT 1 AVG	41.1 DEGF	-409.5	409.5
	ZQ5332 R-ETY DT HTR PWR 2	41.6 WATT	-409.5	409.5		ZQ5356 R-ETHY DUCT 2 AVG	79.6 DEGF	-409.5	409.5
	ZQ5333 R-ETY DT HTR PWR 3	41.1 WATT	-409.5	409.5		ZQ5359 R-ETHY DUCT 3 AVG	66.4 DEGF	-409.5	409.5
	ZW5341 S S NOZ HTR PWR	0.0 WATT	-409.5	409.5		ZW5357 SS NOZZLE 1 AVG	74.8 DEGF	-409.5	409.5
	ZW5342 S S NOZ HTR PWR	0.0 WATT	-409.5	409.5		ZW5358 SS NOZZLE 2 AVG	35.4 DEGF	-409.5	409.5
‡‡	TM5403 MSFC ASPS TEMP 1	36.4 DEGF	-409.5	409.5		TM5404 MSFC ASPS TEMP 2	27.1 DEGF	-409.5	409
#	TF5501 P FLO CONT VLV IN	LLL DEGF	-409.5	409.5		TF5506 S FLO CONT VLV IN	113.1 DEGF	-409.5	409.5
#	TF5529 P CON OUT MIX CH	UUU DEGF	-409.5	409.5	#	TF5530 S CON OUT MIX CH	UUU DEGF	-409.5	409.5
#	TF5529 P CON OUT MIX CH	UUU DEGF	-409.5	409.5	#	TF5531 S CON OUT MIX CH	UUU DEGF	-409.5	409.5
‡‡	FM5643 HI FL TO PRI VALV	2251 PPH	- 4095	4095		FM5649 HI FLOW TO SEC PNL	2252 PPH	- 4095	40

-MID-	-DESCRIPTION-	-VALUE-	-LIMITS-		-MID-	-DESCRIPTION-	-VALUE-	-LIMITS-	
!!	TF5001 F-21 IN TO EVAP 1	62.2 DEGF	-409.5	409.5		TF5007 F-21 IN TO EVAP 2	62.2 DEGF	-409.5	409
	TF5002 F-21 IN TO EVAP 1	61.0 DEGF	-409.5	409.5		TF5008 F-21 IN TO EVAP 2	62.4 DEGF	-409.5	409.5
	TF5003 F-21 OUT OF EVAP 1	43.3 DEGF	-409.5	409.5		TF5009 F-21 OUT OF EVAP 2	43.7 DEGF	-409.5	409.5
	TF5004 F-21 OUT OF EVAP 1	43.7 DEGF	-409.5	409.5		TF5010 F-21 OUT OF EVAP 2	43.7 DEGF	-409.5	409.5
	TW5005 H2O IN TO EVAP 1	127.9 DEGF	-409.5	409.5		TW5011 H2O IN TO EVAP 2	129.0 DEGF	-409.5	409.5
	TW5006 H2O IN TO EVAP 1	128.3 DEGF	-409.5	409.5		TW5012 H2O IN TO EVAP 2	129.0 DEGF	-409.5	409.5
!!	TW5011 H2O IN TO EVAP 2	129.0 DEGF	-409.5	409.5		TD5017 EVAP EXH TOPOFF DT	46.4 DEGF	30.0	240
	TW5012 H2O IN TO EVAP 2	129.0 DEGF	-409.5	409.5	#	TD5018 EVAP EXH TOPOFF DT	19.4 DEGF	30.0	240.0
	TD5013 EVAP EXH TOPOFF DT	33.9 DEGF	30.0	240.0		TD5019 EVAP EXH TOPOFF DT	55.4 DEGF	30.0	240.0
	TD5014 EVAP EXH TOPOFF DT	44.0 DEGF	30.0	240.0		TD5020 EVAP EXH TOPOFF DT	60.9 DEGF	30.0	240.0
	TD5015 EVAP EXH TOPOFF DT	58.1 DEGF	30.0	240.0		TD5021 EVAP EXH TOPOFF DT	78.8 DEGF	30.0	240.0
	TD5016 EVAP EXH TOPOFF DT	42.5 DEGF	30.0	240.0		TD5022 EVAP EXH TOPOFF DT	66.5 DEGF	30.0	240.0
!!	TD5023 EVAP RE-ENTRY DUCT	60.9 DEGF	30.0	240.0		TD5028 EVAP RE-ENTRY DUCT	44.0 DEGF	30.0	240
	TD5024 EVAP RE-ENTRY DUCT	63.7 DEGF	30.0	240.0		TD5029 EVAP RE-ENTRY DUCT	41.1 DEGF	30.0	240.0
#	TD5025 EVAP RE-ENTRY DUCT	20.9 DEGF	30.0	240.0		TD5030 EVAP RE-ENTRY DUCT	44.0 DEGF	30.0	240.0
#	TD5026 EVAP RE-ENTRY DUCT	23.8 DEGF	30.0	240.0		TD5031 EVAP RE-ENTRY DUCT	42.5 DEGF	30.0	240.0
#	TD5027 EVAP RE-ENTRY DUCT	26.7 DEGF	30.0	240.0					
!!	TD5032 EVAP EXH RE-ENTRY	137.0 DEGF	30.0	240.0		TD5036 EVAP EXH RE-ENTRY	148.5 DEGF	30.0	240
	TD5033 EVAP EXH RE-ENTRY	128.0 DEGF	30.0	240.0		TD5037 EVAP EXH RE-ENTRY	78.9 DEGF	30.0	240.0
	TD5034 EVAP EXH RE-ENTRY	93.8 DEGF	30.0	240.0		TD5038 EVAP EXH RE-ENTRY	87.1 DEGF	30.0	240.0
	TD5035 EVAP EXH RE-ENTRY	83.0 DEGF	30.0	240.0		TD5039 EVAP EXH RE-ENTRY	59.6 DEGF	30.0	240.0
						PN5051 H2O TK GN2 PRESS	37.4 PSI	-409.5	409.5
	PF5052 F-21 DIF PRSS EV 1	14.9 PSID	-409.5	409.5		PF5053 F-21 DIF PRSS EV 2	16.1 PSID	-409.5	409.5
	PW5054 H2O SUP PRSS TO EV	30.2 PSIA	-409.5	409.5		PW5055 H2O SUP PRSS TO EV	23.7 PSIA	-409.5	409.5
	PE5056 EVAP 1 CHMBR PRSS	3.03 TORR	-40.95	40.95		PE5057 EVAP 2 CHMBR PRSS	2.96 TORR	-40.95	40.95
!!	PD5058 EXHT DUCT PRSS DP	0.15 TORR	-40.95	40.95	#	PD5065 EXHT DUCT PRSS DP	LLL TORR	-40.95	40.
	PD5059 EXHT DUCT PRSS DP	0.19 TORR	-40.95	40.95		PD5066 EXHT DUCT PRSS DP	0.01 TORR	-40.95	40.95
	PD5060 EXHT DUCT PRSS DP	0.31 TORR	-40.95	40.95		PD5067 EXHT DUCT PRSS DP	0.50 TORR	-40.95	40.95
	PD5061 EXHT DUCT PRSS	1.39 TORR	-40.95	40.95		PD5068 EXHT DUCT PRSS DP	0.44 TORR	-40.95	40.95
	PD5062 EXHT DUCT PRSS	1.55 TORR	-40.95	40.95		PD5069 EXHT DUCT PRSS DP	0.60 TORR	-40.95	40.95
	PD5063 EXHT DUCT PRSS	1.43 TORR	-40.95	40.95		PD5070 EXHT DUCT PRSS DP	0.10 TORR	-40.95	40.95
	PD5064 EXHT DUCT PRSS	0.087 TORR	-4.095	4.095		PD5071 EXHT DUCT PRSS DP	0.059 TORR	-4.095	4.095
!!						FW5081 TOT H2O FLO TO EVP	28.9 PPH	-409.5	409
	FW5082 H2O FLO TO FL EVAP	14.9 PPH	-409.5	409.5		FW5083 H2O FLO TO FL EVAP	14.0 PPH	-409.5	409.5
						WT5091 H2O TANK WEIGHT	90.7 LBS	-409.5	409.5
!!	HT5170 TOP OFF DUCT HTR 1	2.08 AMPS	-40.95	40.95		HT5172 TOP OFF DUCT HTR 3	1.21 AMPS	-40.95	40.
	HT5171 TOP OFF DUCT HTR 2	2.45 AMPS	-40.95	40.95		HT5173 TOP OFF DUCT HTR 4	1.30 AMPS	-40.95	40.95
!!	HT5174 RE-ENTRY DT HTR PWR 1	1.71 AMPS	-40.95	40.95		HT5178 RE-ENTRY DT HTR PWR 3	1.25 AMPS	-40.95	40.
	HT5175 RE-ENTRY DT HTR PWR 2	1.57 AMPS	-40.95	40.95					
!!	HT5176 S S NOZZLE HTR	0.01 AMPS	-40.95	40.95		HT5177 S S NOZZLE HTR	0.00 AMPS	-40.95	40.
!!	FW5063 HI FL TO PRI VALV	2738 PPH	-4095	4095		FW5080 HI FLOW TO SEC PNL	2754 PPH	-4095	40
						FW5060 F21 TOTAL FLOW	5.51 KPPH	-40.95	40.95

-MID-	---DESCRIPTION----	---VALUE---	----LIMITS----	-MID-	---DESCRIPTION----	---VALUE---	----LIMITS----
‡‡	ZQ5201 INST HT RJCT EV 1	12.9 KBTU	-409.5 409.5	ZQ5202	INST HT RJCT EV 2	13.0 KBTU	-409.5 409
				ZQ5203	INSTANT HEAT RJCT	25.9 KBTU	-409.5 409.5
‡‡	ZQ5211 TOT HT RJCT EVP 1	1.7 KBTU	-409.5 409.5	ZQ5212	TOT HT RJCT EVP 2	1.7 KBTU	-409.5 409
				ZQ5213	TOT HT RJC	3.4 KBTU	-409.5 409.5
‡‡	ZW5221 TOT WATR FLW EV 1	1.9 LBS	-409.5 409.5	ZW5222	TOT WATR FLW EV 2	1.9 LBS	-409.5 409
				ZW5223	TOT WATR FLW	3.8 LBS	-409.5 409.5
				ZW5224	WATR TNK DIFF WT.	3.8 LBS	-409.5 409.5
•	ZE5231 SIG EVE TOT EVP 1	7.8 MIN	-409.5 409.5	• ZE5232	SIG EVE TOT EVP 2	7.8 MIN	-409.5 409.5
				• ZE5234	TOTAL TEST TIME	7.8 MIN	-409.5 409.5
‡‡	ZQ5241 AVG HT LOAD EVP 1A	12.7 KBTU	-409.5 409.5	ZQ5242	AVG HT LOAD EVP 2A	12.8 KBTU	-409.5 409
				ZQ5243	AVG HT LOAD A	25.6 KBTU	-409.5 409.5
‡‡	ZQ5251 AVG HT LOAD EVP 1B	0.0 KBTU	-409.5 409.5	ZQ5252	AVG HT LOAD EVP 2B	0.0 KBTU	-409.5 409
				ZQ5253	AVG HT LOAD B	0.0 KBTU	-409.5 409.5
‡‡	ZF5261 AVG WATR USE EV 1	14.6 LBSH	-409.5 409.5	ZF5262	AVG WATR USE EV 2	14.9 LBSH	-409.5 409
				ZF5263	AVG WATR USE A	29.6 LBSH	-409.5 409.5
				ZF5264	AVG WATR USE B	27.7 LBSH	-409.5 409.5
‡‡	ZH5271 AVG ENT CHNG EV 1	866 BTUP	- 4095 4095	ZH5272	AVG ENT CHNG EV 2	862 BTUP	- 4095 40
				ZH5273	AVG ENTP CHNG A	966 BTUP	- 4095 4095
				ZH5281	AVG ENTP CHNG B	921 BTUP	- 4095 4095
‡‡	ZT5301 MIN F-21 OUT TEM 1	43.3 DEGF	-409.5 409.5	ZT5302	MIN F-21 OUT TEM 2	43.3 DEGF	-409.5 409
	ZT5311 MAX F-21 OUT TEM 1	45.0 DEGF	-409.5 409.5	ZT5312	MAX F-21 OUT TEM 2	44.5 DEGF	-409.5 409.5
‡‡	ZQ5321 TP-OF DT HTR PWR 1	175.2 WATT	-409.5 409.5	ZQ5351	TP-OFF DUCT 1 AVG	62.5 DEGF	-409.5 409
	ZQ5322 TP-OF DT HTR PWR 2	182.4 WATT	-409.5 409.5	ZQ5352	TP-OFF DUCT 2 AVG	57.0 DEGF	-409.5 409.5
	ZQ5323 TP-OF DT HTR PWR 3	22.6 WATT	-409.5 409.5	ZQ5353	TP-OFF DUCT 3 AVG	62.6 DEGF	-409.5 409.5
	ZQ5324 TP-OF DT HTR PWR 4	20.6 WATT	-409.5 409.5	ZQ5354	TP-OFF DUCT 4 AVG	47.8 DEGF	-409.5 409.5
	ZQ5331 R-ETY DT HTR PWR 1	40.6 WATT	-409.5 409.5	ZQ5355	R-ETNY DUCT 1 AVG	39.0 DEGF	-409.5 409.5
	ZQ5332 R-ETY DT HTR PWR 2	41.4 WATT	-409.5 409.5	ZQ5356	R-ETNY DUCT 2 AVG	109.9 DEGF	-409.5 409.5
	ZQ5333 R-ETY DT HTR PWR 3	40.2 WATT	-409.5 409.5	ZQ5359	R-ETNY DUCT 3 AVG	101.1 DEGF	-409.5 409.5
	ZN5341 S S NOZ HTR PWR	0.0 WATT	-409.5 409.5	ZN5357	SS NOZZLE 1 AVG	62.9 DEGF	-409.5 409.5
	ZN5342 S S NOZ HTR PWR	0.0 WATT	-409.5 409.5	ZN5358	SS NOZZLE 2 AVG	22.6 DEGF	-409.5 409.5
‡‡	TM5403 MSFC ASPS TEMP 1	36.4 DEGF	-409.5 409.5	TM5404	MSFC ASPS TEMP 2	27.1 DEGF	-409.5 409
#	TF5501 P FLO CONT VLV IN	LLL DEGF	-409.5 409.5	# TF5506	S FLO CONT VLV IN	UUU DEGF	-409.5 409.5
#	TF5524 P CON OUT MIX CH	UUU DEGF	-409.5 409.5	# TF5530	S CON OUT MIX CH	UUU DEGF	-409.5 409.5
#	TF5529 P CON OUT MIX CH	UUU DEGF	-409.5 409.5	# TF5531	S CON OUT MIX CH	UUU DEGF	-409.5 409.5
‡‡	FM5543 HI FL TO PRI VALV	2738 PPH	- 4095 4095	FM5544	HI FLOW TO SEC PNL	2759 PPH	- 4095 40

	TF5001 F-21 IN TO EVAP 1	65.8 DEGF	-409.5	409.5	TF5007 F-21 IN TO EVAP 2	66.8 DEGF	-409.5	409
	TF5002 F-21 IN TO EVAP 1	66.0 DEGF	-409.5	409.5	TF5008 F-21 IN TO EVAP 2	65.2 DEGF	-409.5	409.5
	TF5004 F-21 OUT OF EVAP 1	44.5 DEGF	-409.5	409.5	TF5009 F-21 OUT OF EVAP 2	44.1 DEGF	-409.5	409.5
	TF5006 F-21 OUT OF EVAP 1	44.5 DEGF	-409.5	409.5	TF5010 F-21 OUT OF EVAP 2	44.5 DEGF	-409.5	409.5
	TW5035 H2O IN TO EVAP 1	47.0 DEGF	-409.5	409.5	TW5011 H2O IN TO EVAP 2	48.3 DEGF	-409.5	409.5
	TW5036 H2O IN TO EVAP 1	47.0 DEGF	-409.5	409.5	TW5012 H2O IN TO EVAP 2	47.9 DEGF	-409.5	409.5
	TW5011 H2O IN TO EVAP 2	48.3 DEGF	-409.5	409.5	TD5017 EVAP EXH TOPOFF DT	59.5 DEGF	30.0	240
	TW5012 H2O IN TO EVAP 2	47.9 DEGF	-409.5	409.5	# TD5018 EVAP EXH TOPOFF DT	10.5 DEGF	30.0	240.0
	TD5013 EVAP EXH TOPOFF DT	44.0 DEGF	30.0	240.0	TD5019 EVAP EXH TOPOFF DT	59.5 DEGF	30.0	240.0
	TD5014 EVAP EXH TOPOFF DT	44.0 DEGF	30.0	240.0	TD5020 EVAP EXH TOPOFF DT	49.7 DEGF	30.0	240.0
	TD5015 EVAP EXH TOPOFF DT	49.7 DEGF	30.0	240.0	TD5021 EVAP EXH TOPOFF DT	69.2 DEGF	30.0	240.0
	TD5016 EVAP EXH TOPOFF DT	73.4 DEGF	30.0	240.0	TD5022 EVAP EXH TOPOFF DT	65.1 DEGF	30.0	240.0
	TD5023 EVAP RE-ENTRY DUCT	48.3 DEGF	30.0	240.0	TD5028 EVAP RE-ENTRY DUCT	41.1 DEGF	30.0	240
	TD5024 EVAP RE-ENTRY DUCT	52.6 DEGF	30.0	240.0	TD5029 EVAP RE-ENTRY DUCT	39.7 DEGF	30.0	240.0
#	TD5025 EVAP RE-ENTRY DUCT	12.0 DEGF	30.0	240.0	TD5030 EVAP RE-ENTRY DUCT	38.2 DEGF	30.0	240.0
#	TD5026 EVAP RE-ENTRY DUCT	14.9 DEGF	30.0	240.0	TD5031 EVAP RE-ENTRY DUCT	41.1 DEGF	30.0	240.0
#	TD5027 EVAP RE-ENTRY DUCT	29.6 DEGF	30.0	240.0				
	TD5032 EVAP EXH RE-ENTRY	194.2 DEGF	30.0	240.0	TD5036 EVAP EXH RE-ENTRY	205.1 DEGF	30.0	240
	TD5033 EVAP EXH RE-ENTRY	179.6 DEGF	30.0	240.0	TD5037 EVAP EXH RE-ENTRY	95.1 DEGF	30.0	240.0
	TD5034 EVAP EXH RE-ENTRY	139.6 DEGF	30.0	240.0	TD5038 EVAP EXH RE-ENTRY	109.8 DEGF	30.0	240.0
	TD5035 EVAP EXH RE-ENTRY	126.7 DEGF	30.0	240.0	TD5039 EVAP EXH RE-ENTRY	99.1 DEGF	30.0	240.0
					PW5051 H2O TK GN2 PRESS	32.0 PSI	-409.5	409
	PF5052 F-21 DIF PRSS EV 1	15.1 PSID	-409.5	409.5	PF5053 F-21 DIF PRSS EV 2	16.1 PSID	-409.5	409.5
	PW5054 H2O SUP PRSS TO EV	22.7 PSIA	-409.5	409.5	PW5055 H2O SUP PRSS TO EV	20.0 PSIA	-409.5	409.5
	PE5056 EVAP 1 CHMBR PRSS	3.19 TORR	-40.95	40.95	PE5057 EVAP 2 CHMBR PRSS	1.94 TORR	-40.95	40.95
	PD5058 EXHT DUCT PRSS DP	0.18 TORR	-40.95	40.95	# PD5065 EXHT DUCT PRSS DP	LLL TORR	-40.95	40.
	PD5059 EXHT DUCT PRSS DP	0.19 TORR	-40.95	40.95	PD5066 EXHT DUCT PRSS DP	0.01 TORR	-40.95	40.95
	PD5060 EXHT DUCT PRSS DP	0.32 TORR	-40.95	40.95	PD5067 EXHT DUCT PRSS DP	0.53 TORR	-40.95	40.95
	PD5061 EXHT DUCT PRSS	1.39 TORR	-40.95	40.95	PD5068 EXHT DUCT PRSS DP	0.44 TORR	-40.95	40.95
	PD5062 EXHT DUCT PRSS	1.49 TORR	-40.95	40.95	PD5069 EXHT DUCT PRSS DP	0.59 TORR	-40.95	40.95
	PD5063 EXHT DUCT PRSS	1.65 TORR	-40.95	40.95	PD5070 EXHT DUCT PRSS DP	0.06 TORR	-40.95	40.95
	PD5064 EXHT DUCT PRSS	0.095 TORR	-4.095	4.095	PD5071 EXHT DUCT PRSS DP	0.062 TORR	-4.095	4.095
					FW5081 TOT H2O FLO TO EVP	27.5 PPH	-409.5	409
	FW5082 H2O FLO TO FL EVAP	14.1 PPH	-409.5	409.5	FW5083 H2O FLO TO FL EVAP	15.0 PPH	-409.5	409.5
					WT5091 H2O TANK WEIGHT	45.7 LBS	-409.5	409.5
	HT5170 TOP OFF DUCT HTR 1	1.56 AMPS	-40.95	40.95	HT5172 TOP OFF DUCT HTR 3	1.29 AMPS	-40.95	40.
	HT5171 TOP OFF DUCT HTR 2	1.79 AMPS	-40.95	40.95	HT5173 TOP OFF DUCT HTR 4	1.38 AMPS	-40.95	40.95
	HT5174 R-ETY DT HTR PWR 1	1.71 AMPS	-40.95	40.95	HT5178 R-ETY DT HTR PWR 3	1.19 AMPS	-40.95	40.9
	HT5175 R-ETY DT HTR PWR 2	1.54 AMPS	-40.95	40.95				
	HT5176 S S NOZZLE HTR	0.01 AMPS	-40.95	40.95	HT5177 S S NOZZLE HTR	0.00 AMPS	-40.95	40.
	FW5643 HI FL TO PRI VALV	2751 PPH	- 4095	4095	FW5649 HI FLOW TO SEC PNL	2746 PPH	- 4095	40
					FW5660 F21 TOTAL FLOW	5.51 KPPH	-40.95	40.95

STAT	DESCRIPTION	VALUE	LIMITS		STAT	DESCRIPTION	VALUE	LIMITS	
I	ZD5201 INST HT RJCT EV 1	14.0 KBTU	-409.5	409.5		ZD5202 INST HT RJCT EV 2	15.2 KBTU	-409.5	409.
						ZD5203 INSTANT HEAT RJCT	29.7 KBTU	-409.5	409.5
I	ZD5211 TOT HT RJCT EVP 1	11.2 KBTU	-409.5	409.5		ZD5212 TOT HT RJCT EVP 2	11.1 KBTU	-409.5	409
						ZD5213 TOT HT RJCT	22.2 KBTU	-409.5	409.5
I	ZD5221 TOT WATR FLW EV 1	11.0 LBS	-409.5	409.5		ZD5222 TOT WATR FLW EV 2	10.9 LBS	-409.5	409
						ZD5223 TOT WATR FLW	22.0 LBS	-409.5	409.5
						ZD5224 WATR TNK DIFF WT.	20.7 LBS	-409.5	409.5
I*	ZE5231 SIG EVE TOT EVP 1	45.7 MIN	-409.5	409.5	*	ZE5232 SIG EVE TOT EVP 2	45.7 MIN	-409.5	409
					*	ZE5234 TOTAL TEST TIME	45.7 MIN	-409.5	409.5
I	ZD5241 AVG HT LOAD EVP 1A	14.7 KBTU	-409.5	409.5		ZD5242 AVG HT LOAD EVP 2A	14.5 KBTU	-409.5	409
						ZD5243 AVG HT LOAD A	29.2 KBTU	-409.5	409.5
I	ZD5251 AVG HT LOAD EVP 1B	0.0 KBTU	-409.5	409.5		ZD5252 AVG HT LOAD EVP 2B	0.0 KBTU	-409.5	409.
						ZD5253 AVG HT LOAD B	0.0 KBTU	-409.5	409.5
I	ZF5261 AVG WATR USE EV 1	14.5 LBSH	-409.5	409.5		ZF5262 AVG WATR USE EV 2	14.4 LBSH	-409.5	409
						ZF5263 AVG WATR USE A	28.9 LBSH	-409.5	409.5
						ZF5264 AVG WATR USE B	27.2 LBSH	-409.5	409.5
I	ZH5271 AVG ENT CHNG EV 1	1010 BTUP	- 4095	4095		ZH5272 AVG ENT CHNG EV 2	1011 BTUP	- 4095	409
						ZH5273 AVG ENTP CHNG A	1011 BTUP	- 4095	4095
						ZH5281 AVG ENTP CHNG B	1074 BTUP	- 4095	4095
I	ZT5301 MIN F-21 OUT TEM 1	43.3 DEGF	-409.5	409.5		ZT5302 MIN F-21 OUT TEM 2	44.1 DEGF	-409.5	409
#	ZT5311 MAX F-21 OUT TEM 1	RRR DEGF	-409.5	409.5	#	ZT5312 MAX F-21 OUT TEM 2	RRR DEGF	-409.5	409.5
I	ZD5321 TP-OF DT HTR PWR 1	100.4 WATT	-409.5	409.5		ZD5351 TP-OFF DUCT 1 AVG	84.8 DEGF	-409.5	409
	ZD5322 TP-OF DT HTR PWR 2	100.3 WATT	-409.5	409.5		ZD5352 TP-OFF DUCT 2 AVG	76.1 DEGF	-409.5	409.5
	ZD5323 TP-OF DT HTR PWR 3	25.4 WATT	-409.5	409.5		ZD5353 TP-OFF DUCT 3 AVG	69.2 DEGF	-409.5	409.5
	ZD5324 TP-OF DT HTR PWR 4	22.0 WATT	-409.5	409.5		ZD5354 TP-OFF DUCT 4 AVG	64.6 DEGF	-409.5	409.5
	ZD5331 R-ETY DT HTR PWR 1	40.4 WATT	-409.5	409.5		ZD5355 R-ETHY DUCT 1 AVG	37.2 DEGF	-409.5	409.5
	ZD5332 R-ETY DT HTR PWR 2	40.7 WATT	-409.5	409.5		ZD5356 R-ETHY DUCT 2 AVG	146.8 DEGF	-409.5	409.5
	ZD5333 R-ETY DT HTR PWR 3	40.3 WATT	-409.5	409.5		ZD5359 R-ETHY DUCT 3 AVG	148.6 DEGF	-409.5	409.5
	ZN5341 S S NOZ HTR PWR	0.0 WATT	-409.5	409.5		ZN5357 SS NOZZLE 1 AVG	50.5 DEGF	-409.5	409.5
	ZN5342 S S NOZ HTR PWR	0.0 WATT	-409.5	409.5		ZN5358 SS NOZZLE 2 AVG	13.5 DEGF	-409.5	409.5
I	TM5403 MSFC ASPS TEMP 1	36.4 DEGF	-409.5	409.5		TM5404 MSFC ASPS TEMP 2	27.1 DEGF	-409.5	409
#	TF5501 P FLD CONT VLV IN	LLL DEGF	-409.5	409.5	#	TF5506 S FLD CONT VLV IN	UUU DEGF	-409.5	409.5
#	TF5528 P CON OUT MIX CH	UUU DEGF	-409.5	409.5	#	TF5530 S CON OUT MIX CH	UUU DEGF	-409.5	409.5
#	TF5529 P CON OUT MIX CH	UUU DEGF	-409.5	409.5	#	TF5531 S CON OUT MIX CH	UUU DEGF	-409.5	409.5
I	FM5643 HI FL TO PRI VALV	2751 PPH	- 4095	4095		FM5649 HI FLOW TO SEC PNL	2746 PPH	- 4095	40

-MID-	---DESCRIPTION----	---VALUE---	----LIMITS----		-MID-	---DESCRIPTION----	---VALUE---	----LIMITS----	
‡‡	TF5001 F-21 IN TO EVAP 1	67.4 DEGF	-409.5	409.5		TF5007 F-21 IN TO EVAP 2	66.2 DEGF	-409.5	409
	TF5002 F-21 IN TO EVAP 1	66.8 DEGF	-409.5	409.5		TF5008 F-21 IN TO EVAP 2	66.6 DEGF	-409.5	409.5
	TF5003 F-21 OUT OF EVAP 1	48.3 DEGF	-409.5	409.5		TF5009 F-21 OUT OF EVAP 2	47.8 DEGF	-409.5	409.5
	TF5004 F-21 OUT OF EVAP 1	48.7 DEGF	-409.5	409.5		TF5010 F-21 OUT OF EVAP 2	47.9 DEGF	-409.5	409.5
	TW5005 H2O IN TO EVAP 1	129.4 DEGF	-409.5	409.5		TW5011 H2O IN TO EVAP 2	130.1 DEGF	-409.5	409.5
	TW5006 H2O IN TO EVAP 1	129.4 DEGF	-409.5	409.5		TW5012 H2O IN TO EVAP 2	129.8 DEGF	-409.5	409.5
‡‡	TW5011 H2O IN TO EVAP 2	130.1 DEGF	-409.5	409.5		TD5017 EVAP EXH TOPOFF DT	34.8 DEGF	30.0	240
	TW5012 H2O IN TO EVAP 2	129.8 DEGF	-409.5	409.5	#	TD5018 EVAP EXH TOPOFF DT -	3.0 DEGF	30.0	240.0
	TD5013 EVAP EXH TOPOFF DT	35.4 DEGF	30.0	240.0		TD5019 EVAP EXH TOPOFF DT	33.9 DEGF	30.0	240.0
	TD5014 EVAP EXH TOPOFF DT	42.5 DEGF	30.0	240.0		TD5020 EVAP EXH TOPOFF DT	36.8 DEGF	30.0	240.0
	TD5015 EVAP EXH TOPOFF DT	46.3 DEGF	30.0	240.0		TD5021 EVAP EXH TOPOFF DT	42.5 DEGF	30.0	240.0
	TD5016 EVAP EXH TOPOFF DT	36.8 DEGF	30.0	240.0		TD5022 EVAP EXH TOPOFF DT	36.8 DEGF	30.0	240.0
‡‡	TD5023 EVAP RE-ENTRY DUCT	33.9 DEGF	30.0	240.0		TD5028 EVAP RE-ENTRY DUCT	48.3 DEGF	30.0	240
	TD5024 EVAP RE-ENTRY DUCT	38.2 DEGF	30.0	240.0		TD5029 EVAP RE-ENTRY DUCT	45.4 DEGF	30.0	240.0
#	TD5025 EVAP RE-ENTRY DUCT -	1.4 DEGF	30.0	240.0		TD5030 EVAP RE-ENTRY DUCT	48.3 DEGF	30.0	240.0
#	TD5026 EVAP RE-ENTRY DUCT	3.1 DEGF	30.0	240.0		TD5031 EVAP RE-ENTRY DUCT	46.9 DEGF	30.0	240.0
#	TD5027 EVAP RE-ENTRY DUCT	22.3 DEGF	30.0	240.0					
‡‡	TD5032 EVAP EXH RE-ENTRY	231.2 DEGF	30.0	240.0		TD5036 EVAP EXH RE-ENTRY	233.6 DEGF	30.0	24
	TD5033 EVAP EXH RE-ENTRY	217.1 DEGF	30.0	240.0		TD5037 EVAP EXH RE-ENTRY	78.9 DEGF	30.0	240.0
	TD5034 EVAP EXH RE-ENTRY	183.3 DEGF	30.0	240.0		TD5038 EVAP EXH RE-ENTRY	76.2 DEGF	30.0	240.0
	TD5035 EVAP EXH RE-ENTRY	169.7 DEGF	30.0	240.0		TD5039 EVAP EXH RE-ENTRY	48.3 DEGF	30.0	240.0
‡‡						PN5051 H2O TK GN2 PRESS	30.1 PSI	-409.5	409
	PF5052 F-21 DIF PRSS EV 1	15.3 PSID	-409.5	409.5		PF5053 F-21 DIF PRSS EV 2	16.2 PSID	-409.5	409.5
	PN5054 H2O SUP PRSS TO EV	31.0 PSIA	-409.5	409.5		PN5055 H2O SUP PRSS TO EV	25.1 PSIA	-409.5	409.5
	PE5056 EVAP 1 CHMBR PRSS	3.03 TORR	-40.95	40.95		PE5057 EVAP 2 CHMBR PRSS	1.04 TORR	-40.95	40.95
‡‡	PD5054 EXHT DUCT PRSS DP	0.17 TORR	-40.95	40.95	#	PD5065 EXHT DUCT PRSS DP	LLL TORR	-40.95	40.
	PD5059 EXHT DUCT PRSS DP	0.19 TORR	-40.95	40.95		PD5066 EXHT DUCT PRSS DP	0.01 TORR	-40.95	40.95
	PD5040 EXHT DUCT PRSS DP	0.31 TORR	-40.95	40.95		PD5067 EXHT DUCT PRSS DP	0.47 TORR	-40.95	40.95
	PD5041 EXHT DUCT PRSS	1.31 TORR	-40.95	40.95		PD5068 EXHT DUCT PRSS DP	0.46 TORR	-40.95	40.95
	PD5042 EXHT DUCT PRSS	1.55 TORR	-40.95	40.95		PD5069 EXHT DUCT PRSS DP	0.56 TORR	-40.95	40.95
	PD5043 EXHT DUCT PRSS	1.47 TORR	-40.95	40.95		PD5070 EXHT DUCT PRSS DP	0.04 TORR	-40.95	40.95
	PD5044 EXHT DUCT PRSS	0.098 TORR	-4.095	4.095		PD5071 EXHT DUCT PRSS DP	0.061 TORR	-4.095	4.095
‡‡						FW5081 TOT H2O FLO TO EVP	27.5 PPH	-409.5	409
	FW5082 H2O FLO TO FL EVAP	14.1 PPH	-409.5	409.5		FW5083 H2O FLO TO FL EVAP	14.5 PPH	-409.5	409.5
						WT5091 H2O TANK WEIGHT	80.6 LBS	-409.5	409.5
‡‡	HI5170 TOP OFF DUCT HTR 1	1.93 AMPS	-40.95	40.95		HI5172 TOP OFF DUCT HTR 3	0.05 AMPS	-40.95	40.
	HI5171 TOP OFF DUCT HTR 2	2.42 AMPS	-40.95	40.95		HI5173 TOP OFF DUCT HTR 4	0.01 AMPS	-40.95	40.95
‡	HI5174 R-ETY DT HTR PWR 1	1.27 AMPS	-40.95	40.95		HI5178 R-ETY DT HTR PWR 3	0.83 AMPS	-40.95	40.9
	HI5175 R-ETY DT HTR PWR 2	1.10 AMPS	-40.95	40.95					
‡‡	HI5176 S S NOZZLE HTR	0.01 AMPS	-40.95	40.95		HI5177 S S NOZZLE HTR	0.00 AMPS	-40.95	40.
‡‡	FW5643 HI FL TO PRI VALV	2764 PPH	- 4095	4095		FW5649 HI FLOW TO SEC PNL	2759 PPH	- 4095	40
						FW5660 F21 TOTAL FLOW	5.51 KPPH	-40.95	40.95

-MID-	---DESCRIPTION----	---VALUE---	----LIMITS----	-MID-	---DESCRIPTION----	---VALUE---	----LIMITS----
‡‡	ZW5201 INST HT RJCT EV 1	13.2 KBTU	-409.5 409.5		ZW5202 INST HT RJCT EV 2	13.1 KBTU	-409.5 409
					ZW5203 INSTANT HEAT RJCT	26.3 KBTU	-409.5 409.5
‡‡	ZW5211 TOT HT RJCT EVP 1	39.0 KBTU	-409.5 409.5		ZW5212 TOT HT RJCT EVP 2	39.1 KBTU	-409.5 409
					ZW5213 TOT HT RJCT	78.1 KBTU	-409.5 409.5
‡‡	ZW5221 TOT WATR FLW EV 1	44.4 LBS	-409.5 409.5		ZW5222 TOT WATR FLW EV 2	44.0 LBS	-409.5 409
					ZW5223 TOT WATR FLW	89.3 LBS	-409.5 409.5
					ZW5224 WATR FLW DIFF WT.	- 40.3 LBS	-409.5 409.5
‡‡*	ZE5231 SIG EVE TOT EVP 1	182.8 MIN	-409.5 409.5	*	ZE5232 SIG EVE TOT EVP 2	182.8 MIN	-409.5 409
				*	ZE5234 TOTAL TEST TIME	182.8 MIN	-409.5 409.5
	ZW5241 AVG HT LOAD EVP 1A	12.8 KBTU	-409.5 409.5		ZW5242 AVG HT LOAD EVP 2A	12.8 KBTU	-409.5 409.5
					ZW5243 AVG HT LOAD A	25.6 KBTU	-409.5 409.5
‡‡	ZW5251 AVG HT LOAD EVP 1B	0.0 KBTU	-409.5 409.5		ZW5252 AVG HT LOAD EVP 2B	0.0 KBTU	-409.5 409
					ZW5253 AVG HT LOAD B	0.0 KBTU	-409.5 409.5
‡‡	ZF5261 AVG WATR USE EV 1	14.6 LBSM	-409.5 409.5		ZF5262 AVG WATR USE EV 2	14.8 LBSM	-409.5 409
					ZF5263 AVG WATR USE A	29.3 LBSM	-409.5 409.5
					ZF5264 AVG WATR USE B	- 13.2 LBSM	-409.5 409.5
	ZW5271 AVG ENT CHNG EV 1	880 BTUP	- 4095 4095		ZW5272 AVG ENT CHNG EV 2	866 BTUP	- 4095 4095
					ZW5273 AVG ENTP CHNG A	874 BTUP	- 4095 4095
					ZW5281 AVG ENTP CHNG B	- 1934 BTUP	- 4095 4095
‡‡	ZT4301 MIN F-21 OUT TEM 1	43.3 DEGF	-409.5 409.5		ZT5302 MIN F-21 OUT TEM 2	43.0 DEGF	-409.5 409
	ZT5311 MAX F-21 OUT TEM 1	49.5 DEGF	-409.5 409.5		ZT5312 MAX F-21 OUT TEM 2	49.1 DEGF	-409.5 409.5
‡‡	ZD5321 TP-OF DT HTR PWR 1	149.4 WATT	-409.5 409.5		ZD5351 TP-OFF DUCT 1 AVG	54.7 DEGF	-409.5 409
	ZD5322 TP-OF DT HTR PWR 2	178.9 WATT	-409.5 409.5		ZD5352 TP-OFF DUCT 2 AVG	54.2 DEGF	-409.5 409.5
	ZD5323 TP-OF DT HTR PWR 3	0.1 WATT	-409.5 409.5		ZD5353 TP-OFF DUCT 3 AVG	39.2 DEGF	-409.5 409.5
	ZD5324 TP-OF DT HTR PWR 4	0.0 WATT	-409.5 409.5		ZD5354 TP-OFF DUCT 4 AVG	35.8 DEGF	-409.5 409.5
	ZD5331 R-ETY DT HTR PWR 1	21.7 WATT	-409.5 409.5		ZD5355 R-ETRY DUCT 1 AVG	41.1 DEGF	-409.5 409.5
	ZD5332 R-ETY DT HTR PWR 2	22.3 WATT	-409.5 409.5		ZD5356 R-ETRY DUCT 2 AVG	170.6 DEGF	-409.5 409.5
	ZD5333 R-ETY DT HTR PWR 3	22.0 WATT	-409.5 409.5		ZD5359 R-ETRY DUCT 3 AVG	190.0 DEGF	-409.5 409.5
	ZN5341 S S NOZ HTR PWR	0.0 WATT	-409.5 409.5		ZN5357 SS NOZZLE 1 AVG	36.8 DEGF	-409.5 409.5
	ZN5342 S S NOZ HTR PWR	0.0 WATT	-409.5 409.5		ZN5358 SS NOZZLE 2 AVG	0.9 DEG	-409.5 409.5
‡‡	TM5403 MSFC ASPS TEMP 1	33.3 DEGF	-409.5 409.5		TM5404 MSFC ASPS TEMP 2	25.5 DEGF	-409.5 409
#	TF5501 P FLO CONT VLV IN	LLL DEGF	-409.5 409.5	#	TF5506 S FLO CONT VLV IN	UUU DEGF	-409.5 409.5
#	TF5528 P CON OUT MIX CH	UUU DEGF	-409.5 409.5	#	TF5530 S CON OUT MIX CH	UUU DEGF	-409.5 409.5
#	TF5529 P CON OUT MIX CH	UUU DEGF	-409.5 409.5	#	TF5531 S CON OUT MIX CH	UUU DEGF	-409.5 409.5
‡‡	FM5643 HI FL TO PRI VALV	2764 PPH	- 4095 4095		FM5649 HI FLOW TO SEC PNL	2759 PPH	- 4095 40

T9-61

11:01

PAGE 12 CSD IR/EVAP SCOOP (DOME) CHAMBER A DAY 114, 20 HRS, 54 MIN, 01 SEC

-MID-	---DESCRIPTION----	---VALUE---	----LIMITS----	-MID-	---DESCRIPTION----	---VALUE---	----LIMITS----
##	ZD5201 INST HT RJCT EV 1	12.6 KBTU	-409.5 409.5	ZD5202	INST HT RJCT EV 2	12.4 KBTU	-409.5 409
				ZD5203	INSTANT HEAT RJCT	25.2 KBTU	-409.5 409.5
##	ZD5211 TOT HT RJCT EVP 1	20.4 KBTU	-409.5 409.5	ZD5212	TOT HT RJCT EVP 2	20.8 KBTU	-409.5 409
				ZD5213	TOT HT RJCT	41.2 KBTU	-409.5 409.5
##	ZW5221 TOT WATR FLW EV 1	23.4 LBS	-409.5 409.5	ZW5222	TOT WATR FLW EV 2	23.8 LBS	-409.5 409
				ZW5223	TOT WATR FLW	47.2 LBS	-409.5 409.5
				ZW5224	WATR TNK DIFF WT.	45.7 LBS	-409.5 409.5
###	* ZE5231 SIG EVE TOT EVP 1	97.8 MIN	-409.5 409.5	* ZE5232	SIG EVE TOT EVP 2	97.8 MIN	-409.5 40
				* ZE5234	TOTAL TEST TIME	97.8 MIN	-409.5 409.5
#	ZD5241 AVG HT LOAD EVP 1A	12.5 KBTU	-409.5 409.5	ZD5242	AVG HT LOAD EVP 2A	12.7 KBTU	-409.5 409.
				ZD5243	AVG HT LOAD A	25.3 KBTU	-409.5 409.5
##	ZD5251 AVG HT LOAD EVP 1B	0.0 KBTU	-409.5 409.5	ZD5252	AVG HT LOAD EVP 2B	0.0 KBTU	-409.5 409
				ZD5253	AVG HT LOAD B	0.0 KBTU	-409.5 409.5
###	ZF5261 AVG WATR USE EV 1	14.3 LBSH	-409.5 409.5	ZF5262	AVG WATR USE EV 2	14.6 LBSH	-409.5 40
				ZF5263	AVG WATR USE A	29.0 LBSH	-409.5 409.5
				ZF5264	AVG WATR USE B	29.0 LBSH	-409.5 409.5
##	ZM5271 AVG ENT CHNG EV 1	873 BTUP	- 4095 4095	ZM5272	AVG ENT CHNG EV 2	872 BTUP	- 4095 40
				ZM5273	AVG ENTP CHNG A	872 BTUP	- 4095 4095
				ZM5281	AVG ENTP CHNG B	901 BTUP	- 4095 4095
##	ZT5301 MIN F-21 OUT TEM 1	45.0 DEGF	-409.5 409.5	ZT5302	MIN F-21 OUT TEM 2	44.5 DEGF	-409.5 409
#	ZT5311 MAX F-21 OUT TEM 1	RRR DEGF	-409.5 409.5	# ZT5312	MAX F-21 OUT TEM 2	RRR DEGF	-409.5 409.5
##	ZD5321 TP-OF DT HTR PWR 1	125.0 WATT	-409.5 409.5	ZD5351	TP-OFF DUCT 1 AVG	50.1 DEGF	-409.5 409
	ZD5322 TP-OF DT HTR PWR 2	159.9 WATT	-409.5 409.5	ZD5352	TP-OFF DUCT 2 AVG	50.5 DEGF	-409.5 409.5
	ZD5323 TP-OF DT HTR PWR 3	0.0 WATT	-409.5 409.5	ZD5353	TP-OFF DUCT 3 AVG	34.9 DEGF	-409.5 409.5
	ZD5324 TP-OF DT HTR PWR 4	0.0 WATT	-409.5 409.5	ZD5354	TP-OFF DUCT 4 AVG	33.4 DEGF	-409.5 409.5
	ZD5331 R-ETY DT HTR PWR 1	21.7 WATT	-409.5 409.5	ZD5355	R-ETHY DUCT 1 AVG	40.4 DEGF	-409.5 409.5
	ZD5332 R-ETY DT HTR PWR 2	21.9 WATT	-409.5 409.5	ZD5356	R-ETHY DUCT 2 AVG	161.5 DEGF	-409.5 409.5
	ZD5333 R-ETY DT HTR PWR 3	21.7 WATT	-409.5 409.5	ZD5359	R-ETHY DUCT 3 AVG	184.0 DEGF	-409.5 409.5
	ZN5341 S S NOZ HTR PWR	0.0 WATT	-409.5 409.5	ZN5357	SS NOZZLE 1 AVG	30.4 DEGF	-409.5 409.5
	ZN5342 S S NOZ HTR PWR	0.0 WATT	-409.5 409.5	ZN5358	SS NOZZLE 2 AVG	2.2 DEGF	-409.5 409.5
##	TM5403 MSFC ASPS TEMP 1	34.8 DEGF	-409.5 409.5	TM5404	MSFC ASPS TEMP 2	25.5 DEGF	-409.5 409
#	TF5501 P FLO CONT VLV IN	LLL DEGF	-409.5 409.5	# TF5504	S FLO CONT VLV IN	UUU DEGF	-409.5 409.5
#	TF5524 P CON OUT MIX CH	UUU DEGF	-409.5 409.5	# TF5530	S CON OUT MIX CH	UUU DEGF	-409.5 409.5
#	TF5529 P CON OUT MIX CH	UUU DEGF	-409.5 409.5	# TF5531	S CON OUT MIX CH	UUU DEGF	-409.5 409.5
###	FM5643 HI FL TO PRI VALV	2764 PPH	- 4095 4095	FM5649	HI FLOW TO SEC PNL	2759 PPH	- 4095 4

	-MID-	-DESCRIPTION-	-VALUE-	-LIMITS-		-MID-	-DESCRIPTION-	-VALUE-	-LIMITS-
!	TF5001	F-21 IN TO EVAP 1	66.6 DEGF	-409.5 409.5		TF5007	F-21 IN TO EVAP 2	65.2 DEGF	-409.5 409
	TF5002	F-21 IN TO EVAP 1	65.4 DEGF	-409.5 409.5		TF5008	F-21 IN TO EVAP 2	66.6 DEGF	-409.5 409.5
	TF5003	F-21 OUT OF EVAP 1	47.9 DEGF	-409.5 409.5		TF5009	F-21 OUT OF EVAP 2	47.9 DEGF	-409.5 409.5
	TF5004	F-21 OUT OF EVAP 1	48.3 DEGF	-409.5 409.5		TF5010	F-21 OUT OF EVAP 2	48.3 DEGF	-409.5 409.5
	TW5005	H2O IN TO EVAP 1	130.1 DEGF	-409.5 409.5		TW5011	H2O IN TO EVAP 2	131.3 DEGF	-409.5 409.5
	TW5006	H2O IN TO EVAP 1	130.5 DEGF	-409.5 409.5		TW5012	H2O IN TO EVAP 2	131.3 DEGF	-409.5 409.5
!	TW5011	H2O IN TO EVAP 2	131.3 DEGF	-409.5 409.5		TD5017	EVAP EXH TOPOFF DT	36.4 DEGF	30.0 240
	TW5012	H2O IN TO EVAP 2	131.3 DEGF	-409.5 409.5	#	TD5018	EVAP EXH TOPOFF DT	6.1 DEGF	30.0 240.0
	TD5019	EVAP EXH TOPOFF DT	32.5 DEGF	30.0 240.0		TD5019	EVAP EXH TOPOFF DT	31.0 DEGF	30.0 240.0
	TD5016	EVAP EXH TOPOFF DT	39.7 DEGF	30.0 240.0	#	TD5020	EVAP EXH TOPOFF DT	29.6 DEGF	30.0 240.0
	TD5015	EVAP EXH TOPOFF DT	46.9 DEGF	30.0 240.0		TD5021	EVAP EXH TOPOFF DT	36.0 DEGF	30.0 240.0
	TD5014	EVAP EXH TOPOFF DT	33.9 DEGF	30.0 240.0		TD5022	EVAP EXH TOPOFF DT	33.9 DEGF	30.0 240.0
!#	TD5023	EVAP RE-ENTRY DUCT	28.2 DEGF	30.0 240.0		TD5028	EVAP RE-ENTRY DUCT	48.3 DEGF	30.0 240
	TD5024	EVAP RE-ENTRY DUCT	32.5 DEGF	30.0 240.0		TD5029	EVAP RE-ENTRY DUCT	45.4 DEGF	30.0 240.0
#@	TD5025	EVAP RE-ENTRY DUCT	- 4.5 DEGF	30.0 240.0		TD5030	EVAP RE-ENTRY DUCT	46.9 DEGF	30.0 240.0
#	TD5026	EVAP RE-ENTRY DUCT	0.1 DEGF	30.0 240.0		TD5031	EVAP RE-ENTRY DUCT	45.6 DEGF	30.0 240.0
#	TD5027	EVAP RE-ENTRY DUCT	20.9 DEGF	30.0 240.0					
	TD5032	EVAP EXH RE-ENTRY	219.5 DEGF	30.0 240.0		TD5036	EVAP EXH RE-ENTRY	219.5 DEGF	30.0 240.0
	TD5033	EVAP EXH RE-ENTRY	206.3 DEGF	30.0 240.0		TD5037	EVAP EXH RE-ENTRY	72.0 DEGF	30.0 240.0
	TD5034	EVAP EXH RE-ENTRY	178.4 DEGF	30.0 240.0		TD5038	EVAP EXH RE-ENTRY	66.5 DEGF	30.0 240.0
	TD5035	EVAP EXH RE-ENTRY	167.2 DEGF	30.0 240.0		TD5039	EVAP EXH RE-ENTRY	44.0 DEGF	30.0 240.0
!						PN5051	H2O TK GN2 PRESS	40.9 PSI	-409.5 409
	PF5052	F-21 DIF PRSS EV 1	15.0 PSID	-409.5 409.5		PF5053	F-21 DIF PRSS EV 2	16.0 PSID	-409.5 409.5
	PW5054	H2O SUP PRSS TO EV	32.0 PSIA	-409.5 409.5		PW5055	H2O SUP PRSS TO EV	25.7 PSIA	-409.5 409.5
	PE5056	EVAP 1 CHMBR PRSS	3.07 TORR	-40.95 40.95		PE5057	EVAP 2 CHMBR PRSS	1.00 TORR	-40.95 40.95
!	PD5058	EXHT DUCT PRSS DP	0.18 TORR	-40.95 40.95	#	PD5065	EXHT DUCT PRSS DP	LLL TORR	-40.95 40.
	PD5059	EXHT DUCT PRSS DP	0.19 TORR	-40.95 40.95		PD5066	EXHT DUCT PRSS DP	0.01 TORR	-40.95 40.95
	PD5060	EXHT DUCT PRSS DP	0.32 TORR	-40.95 40.95		PD5067	EXHT DUCT PRSS DP	0.47 TORR	-40.95 40.95
	PD5061	EXHT DUCT PRSS	1.35 TORR	-40.95 40.95		PD5068	EXHT DUCT PRSS DP	0.44 TORR	-40.95 40.95
	PD5062	EXHT DUCT PRSS	1.55 TORR	-40.95 40.95		PD5069	EXHT DUCT PRSS DP	0.67 TORR	-40.95 40.95
	PD5063	EXHT DUCT PRSS	1.47 TORR	-40.95 40.95		PD5070	EXHT DUCT PRSS DP	0.08 TORR	-40.95 40.95
	PD5064	EXHT DUCT PRSS	0.091 TORR	-4.095 4.095		PD5071	EXHT DUCT PRSS DP	0.061 TORR	-4.095 4.095
!						FW5081	TOT H2O FLO TO EVP	27.5 PPH	-409.5 409
	FW5062	H2O FLO TO FL EVAP	14.7 PPH	-409.5 409.5		FW5063	H2O FLO TO FL EVAP	14.7 PPH	-409.5 409.5
						WT5091	H2O TANK WEIGHT	32.6 LBS	-409.5 409.5
!!	HI5170	TOP OFF DUCT HTR 1	1.76 AMPS	-40.95 40.95		HI5172	TOP OFF DUCT HTR 3	0.03 AMPS	-40.95 40
	HI5171	TOP OFF DUCT HTR 2	2.29 AMPS	-40.95 40.95		HI5173	TOP OFF DUCT HTR 4	0.01 AMPS	-40.95 40.95
!!	HI5174	R-ETY DT HTR PWR 1	1.27 AMPS	-40.95 40.95		HI5178	R-ETY DT HTR PWR 3	0.83 AMPS	-40.95 40.
	HI5175	R-ETY DT HTR PWR 2	1.10 AMPS	-40.95 40.95					
!!	HI5176	S S NOZZLE HTR	0.01 AMPS	-40.95 40.95		HI5177	S S NOZZLE HTR	0.00 AMPS	-40.95 40.
!!	FW5663	HI FL TO PRI VALV	2764 PPH	- 4095 4095		FW5649	HI FLOW TO SEC PNL	2759 PPH	- 4095 40
						FW5660	F21 TOTAL FLOW	5.51 KPPH	-40.95 40.95

-MID-	-DESCRIPTION-	-VALUE-	-LIMITS-		-MID-	-DESCRIPTION-	-VALUE-	-LIMITS-	
!!	TF5001 F-21 IN TO EVAP 1	65.6 DEGF	-409.5	409.5		TF5007 F-21 IN TO EVAP 2	65.8 DEGF	-409.5	409
	TF5002 F-21 IN TO EVAP 1	65.0 DEGF	-409.5	409.5		TF5008 F-21 IN TO EVAP 2	64.4 DEGF	-409.5	409.5
	TF5003 F-21 OUT OF EVAP 1	47.0 DEGF	-409.5	409.5		TF5009 F-21 OUT OF EVAP 2	47.5 DEGF	-409.5	409.5
	TF5004 F-21 OUT OF EVAP 1	47.5 DEGF	-409.5	409.5		TF5010 F-21 OUT OF EVAP 2	47.9 DEGF	-409.5	409.5
	TW5005 H2O IN TO EVAP 1	126.9 DEGF	-409.5	409.5		TW5011 H2O IN TO EVAP 2	127.9 DEGF	-409.5	409.5
	TW5006 H2O IN TO EVAP 1	126.8 DEGF	-409.5	409.5		TW5012 H2O IN TO EVAP 2	127.8 DEGF	-409.5	409.5
	TW5011 H2O IN TO EVAP 2	127.9 DEGF	-409.5	409.5		TD5017 EVAP EXH TOPOFF DT	32.8 DEGF	30.0	240.0
	TW5012 H2O IN TO EVAP 2	127.5 DEGF	-409.5	409.5	#	TD5018 EVAP EXH TOPOFF DT	6.1 DEGF	30.0	240.0
#	TD5013 EVAP EXH TOPOFF DT	29.6 DEGF	30.0	240.0	#	TD5019 EVAP EXH TOPOFF DT	29.4 DEGF	30.0	240.0
	TD5014 EVAP EXH TOPOFF DT	36.8 DEGF	30.0	240.0	#	TD5020 EVAP EXH TOPOFF DT	26.7 DEGF	30.0	240.0
	TD5015 EVAP EXH TOPOFF DT	42.5 DEGF	30.0	240.0		TD5021 EVAP EXH TOPOFF DT	35.4 DEGF	30.0	240.0
	TD5016 EVAP EXH TOPOFF DT	35.4 DEGF	30.0	240.0		TD5022 EVAP EXH TOPOFF DT	31.0 DEGF	30.0	240.0
!!#	TD5023 EVAP RE-ENTRY DUCT	26.7 DEGF	30.0	240.0		TD5028 EVAP RE-ENTRY DUCT	45.9 DEGF	30.0	240
#	TD5024 EVAP RE-ENTRY DUCT	29.6 DEGF	30.0	240.0		TD5029 EVAP RE-ENTRY DUCT	45.6 DEGF	30.0	240.0
#	TD5025 EVAP RE-ENTRY DUCT	4.5 DEGF	30.0	240.0		TD5030 EVAP RE-ENTRY DUCT	46.9 DEGF	30.0	240.0
#	TD5026 EVAP RE-ENTRY DUCT	0.1 DEGF	30.0	240.0		TD5031 EVAP RE-ENTRY DUCT	45.4 DEGF	30.0	240.0
#	TD5027 EVAP RE-ENTRY DUCT	22.3 DEGF	30.0	240.0					
!!	TD5032 EVAP EXH RE-ENTRY	214.8 DEGF	30.0	240.0		TD5036 EVAP EXH RE-ENTRY	214.8 DEGF	30.0	240
	TD5033 EVAP EXH RE-ENTRY	201.5 DEGF	30.0	240.0		TD5037 EVAP EXH RE-ENTRY	54.9 DEGF	30.0	240.0
	TD5034 EVAP EXH RE-ENTRY	174.7 DEGF	30.0	240.0		TD5038 EVAP EXH RE-ENTRY	63.7 DEGF	30.0	240.0
	TD5035 EVAP EXH RE-ENTRY	163.5 DEGF	30.0	240.0		TD5039 EVAP EXH RE-ENTRY	44.0 DEGF	30.0	240.0
!!!						PW5051 H2O TK GAS PRESS	40.9 PSI	-409.5	40
	PF5052 F-21 DIF PRSS EV 1	15.3 PSID	-409.5	409.5		PF5053 F-21 DIF PRSS EV 2	16.2 PSID	-409.5	409.5
	PW5054 H2O SUP PRSS TO EV	33.0 PSIA	-409.5	409.5		PW5055 H2O SUP PRSS TO EV	26.7 PSIA	-409.5	409.5
	PE5056 EVAP 1 CHMBR PRSS	3.23 TORR	-40.95	40.95		PE5057 EVAP 2 CHMBR PRSS	0.92 TORR	-40.95	40.95
!!	PD5058 EXHT DUCT PRSS DP	0.16 TORR	-40.95	40.95		PD5065 EXHT DUCT PRSS DP	0.34 TORR	-40.95	40.
	PD5059 EXHT DUCT PRSS DP	0.17 TORR	-40.95	40.95		PD5066 EXHT DUCT PRSS DP	0.01 TORR	-40.95	40.95
	PD5060 EXHT DUCT PRSS DP	0.29 TORR	-40.95	40.95		PD5067 EXHT DUCT PRSS DP	0.48 TORR	-40.95	40.95
	PD5061 EXHT DUCT PRSS	1.47 TORR	-40.95	40.95		PD5068 EXHT DUCT PRSS DP	0.43 TORR	-40.95	40.95
	PD5062 EXHT DUCT PRSS	1.59 TORR	-40.95	40.95		PD5069 EXHT DUCT PRSS DP	0.93 TORR	-40.95	40.95
	PD5063 EXHT DUCT PRSS	1.35 TORR	-40.95	40.95		PD5070 EXHT DUCT PRSS DP	0.21 TORR	-40.95	40.95
	PD5064 EXHT DUCT PRSS	0.094 TORR	-4.095	4.095		PD5071 EXHT DUCT PRSS DP	0.058 TORR	-4.095	4.095
	FW5082 H2O FLO TO FL EVAP	15.0 PPH	-409.5	409.5		FW5081 TOT H2O FLO TO EVP	27.9 PPH	-409.5	409.5
						FW5083 H2O FLO TO FL EVAP	14.9 PPH	-409.5	409.5
						WT5091 H2O TANK WEIGHT	122.1 LBS	-409.5	409.5
!!	HI5170 TOP OFF DUCT HTR 1	1.76 AMPS	-40.95	40.95		HI5172 TOP OFF DUCT HTR 3	0.03 AMPS	-40.95	40.
	HI5171 TOP OFF DUCT HTR 2	1.83 AMPS	-40.95	40.95		HI5173 TOP OFF DUCT HTR 4	0.01 AMPS	-40.95	40.95
	HI5174 R-ETY DT HTR PWR 1	1.25 AMPS	-40.95	40.95		HI5178 R-ETY DT MIN PWR 3	0.83 AMPS	-40.95	40.95
	HI5175 R-ETY DT HTR PWR 2	1.10 AMPS	-40.95	40.95					
	HI5176 S S NOZZLE HTR	0.01 AMPS	-40.95	40.95		HI5177 S S NOZZLE HTR	0.00 AMPS	-40.95	40.95
!!	FW5643 HI FL TO PRI VALV	2764 PPH	- 4095	4095		FW5644 HI FLOW TO SEC PNL	2759 PPH	- 4095	40
						FW5660 F21 TOTAL FLOW	5.51 KPPH	-40.95	40.95

PARA 4.2		ESD INTERFACE SCENE (DOUBLE) CHANNEL A								MAY TIME 22 HRS 10 MINS 02 SEC	
	MNEM	DESCRIPTION		VAL		LIMITS			MNEM	DESCRIPTION	VAL	LIMITS
**	ZD5201	INST HT DUCT EV 1		13.1	KBTU	-409.5	409.5		ZD5202	INST HT DUCT EV 2	13.1 KBTU	-409.5 409
									ZD5203	INSTANT HEAT DUCT	25.0 KBTU	-409.5 409.5
	ZD5211	TOT HT DUCT EVP 1		9.4	KBTU	-409.5	409.5		ZD5212	TOT HT DUCT EVP 2	9.4 KBTU	-409.5 409.5
									ZD5213	TOT HT DUCT	19.0 KBTU	-409.5 409.5
***	ZD5221	TOT WATR FLW EV 1		10.4	LBS	-409.5	409.5		ZD5222	TOT WATR FLW EV 2	11.0 LBS	-409.5 40
									ZD5223	TOT WATR FLW	21.4 LBS	-409.5 409.5
									ZD5224	WATR TNK DIFF WT	-105.5 LBS	-409.5 409.5
****	ZE5231	SIG EVE TOT EVP 1		43.9	MIN	-409.5	409.5	*	ZE5232	SIG EVE TOT EVP 2	43.9 MIN	-409.5 40
								*	ZE5234	TOTAL TEST TIME	43.9 MIN	-409.5 409.5
**	ZD5241	AVG HT LOAD EVP 1A		12.9	KBTU	-409.5	409.5		ZD5242	AVG HT LOAD EVP 2A	13.1 KBTU	-409.5 409
									ZD5243	AVG HT LOAD A	25.0 KBTU	-409.5 409.5
**	ZD5251	AVG HT LOAD EVP 1B		0.0	KBTU	-409.5	409.5		ZD5252	AVG HT LOAD EVP 2B	0.0 KBTU	-409.5 409
									ZD5253	AVG HT LOAD B	0.0 KBTU	-409.5 409.5
**	ZF5261	AVG WATR USE EV 1		14.8	LBSH	-409.5	409.5		ZF5262	AVG WATR USE EV 2	14.0 LBSH	-409.5 409
									ZF5263	AVG WATR USE A	29.8 LBSH	-409.5 409.5
									ZF5264	AVG WATR USE B	-144.3 LBSH	-409.5 409.5
**	ZH5271	AVG ENT CHNG EV 1		870	BTUP	- 4095	4095		ZH5272	AVG ENT CHNG EV 2	870 BTUP - 4095	40
									ZH5273	AVG ENTP CHNG A	870 BTUP - 4095	4095
									ZH5281	AVG ENTP CHNG B	180 BTUP - 4095	4095
**	ZT5301	MIN F-21 OUT TEM 1		46.6	DEGF	-409.5	409.5		ZT5302	MIN F-21 OUT TEM 2	46.8 DEGF	-409.5 409
#	ZT5311	MAX F-21 OUT TEM 1		888	DEGF	-409.5	409.5	#	ZT5312	MAX F-21 OUT TEM 2	888 DEGF	-409.5 409.5
**	ZD5321	TP-OFF DT HTR PWR 1		124.9	WATT	-409.5	409.5		ZD5351	TP-OFF DUCT 1 AVG	48.4 DEGF	-409.5 409
	ZD5322	TP-OF DT HTR PWR 2		102.0	WATT	-409.5	409.5		ZD5352	TP-OFF DUCT 2 AVG	42.0 DEGF	-409.5 409.5
	ZD5323	TP-OF DT HTR PWR 3		0.0	WATT	-409.5	409.5		ZD5353	TP-OFF DUCT 3 AVG	33.9 DEGF	-409.5 409.5
	ZD5324	TP-OF DT HTR PWR 4		0.0	WATT	-409.5	409.5		ZD5354	TP-OFF DUCT 4 AVG	32.8 DEGF	-409.5 409.5
	ZD5331	R-ETY DT HTR PWR 1		22.4	WATT	-409.5	409.5		ZD5355	R-ETRY DUCT 1 AVG	40.4 DEGF	-409.5 409.5
	ZD5332	R-ETY DT HTR PWR 2		21.8	WATT	-409.5	409.5		ZD5356	R-ETRY DUCT 2 AVG	158.3 DEGF	-409.5 409.5
	ZD5333	R-ETY DT HTR PWR 3		21.0	WATT	-409.5	409.5		ZD5359	R-ETRY DUCT 3 AVG	179.9 DEGF	-409.5 409.5
	ZN5341	S S NOZ HTR PWR		0.0	WATT	-409.5	409.5		ZN5357	SS NOZZLE 1 AVG	29.2 DEGF	-409.5 409.5
	ZN5342	S S NOZ HTR PWR		0.0	WATT	-409.5	409.5		ZN5358	SS NOZZLE 2 AVG	2.2 DEGF	-409.5 409.5
**	TM5403	MSFC ASPS TEMP 1		33.3	DEGF	-409.5	409.5		TM5404	MSFC ASPS TEMP 2	28.5 DEGF	-409.5 409
	TF5501	P FLO CONT VLV IN		80.7	DEGF	-409.5	409.5	#	TF5506	S FLO CONT VLV IN	UUU DEGF	-409.5 409.5
#	TF5528	P CON OUT MIX CH		UUU	DEGF	-409.5	409.5	#	TF5530	S CON OUT MIX CH	UUU DEGF	-409.5 409.5
#	TF5529	P CON OUT MIX CH		UUU	DEGF	-409.5	409.5	#	TF5531	S CON OUT MIX CH	UUU DEGF	-409.5 409.5
**	FM5643	HI FL TO PRI VALV		2764	PPH	- 4095	4095		FM5649	HI FLOW TO SEC PNL	2759 PPH - 4095	40

	TF5001 F-21 IN TO EVAP 1	62.6 DEGF	-409.5	409.5		TF5007 F-21 IN TO EVAP 2	61.4 DEGF	-409.5	409
	TF5002 F-21 IN TO EVAP 1	61.8 DEGF	-409.5	409.5		TF5008 F-21 IN TO EVAP 2	61.8 DEGF	-409.5	409.5
	TF5003 F-21 OUT OF EVAP 1	43.3 DEGF	-409.5	409.5		TF5009 F-21 OUT OF EVAP 2	59.4 DEGF	-409.5	409.5
	TF5004 F-21 OUT OF EVAP 1	43.3 DEGF	-409.5	409.5		TF5010 F-21 OUT OF EVAP 2	59.4 DEGF	-409.5	409.5
	TW5005 H2O IN TO EVAP 1	117.3 DEGF	-409.5	409.5		TW5011 H2O IN TO EVAP 2	108.8 DEGF	-409.5	409.5
	TW5006 H2O IN TO EVAP 1	117.7 DEGF	-409.5	409.5		TW5012 H2O IN TO EVAP 2	108.8 DEGF	-409.5	409.5
	TW5011 H2O IN TO EVAP 2	108.8 DEGF	-409.5	409.5		TD5017 EVAP EXH TOPOFF DT	44.9 DEGF	30.0	240
	TW5012 H2O IN TO EVAP 2	108.8 DEGF	-409.5	409.5	#	TD5018 EVAP EXH TOPOFF DT	23.1 DEGF	30.0	240.0
#	TF5013 EVAP EXH TOPOFF DT	23.8 DEGF	30.0	240.0	#	TD5019 EVAP EXH TOPOFF DT	29.4 DEGF	30.0	240.0
	TF5014 EVAP EXH TOPOFF DT	144.5 DEGF	30.0	240.0	#	TD5020 EVAP EXH TOPOFF DT	16.4 DEGF	30.0	240.0
	TD5015 EVAP EXH TOPOFF DT	43.0 DEGF	30.0	240.0		TD5021 EVAP EXH TOPOFF DT	72.0 DEGF	30.0	240.0
	TD5016 EVAP EXH TOPOFF DT	65.1 DEGF	30.0	240.0		TD5022 EVAP EXH TOPOFF DT	62.5 DEGF	30.0	240.0
	TD5023 EVAP RE-ENTRY DUCT	36.8 DEGF	30.0	240.0		TD5028 EVAP RE-ENTRY DUCT	44.0 DEGF	30.0	240
	TD5024 EVAP RE-ENTRY DUCT	31.0 DEGF	30.0	240.0		TD5024 EVAP RE-ENTRY DUCT	41.1 DEGF	30.0	240.0
#	TD5025 EVAP RE-ENTRY DUCT	12.0 DEGF	30.0	240.0		TD5030 EVAP RE-ENTRY DUCT	60.9 DEGF	30.0	240.0
#	TD5026 EVAP RE-ENTRY DUCT	1.6 DEGF	30.0	240.0		TD5031 EVAP RE-ENTRY DUCT	62.3 DEGF	30.0	240.0
#	TD5027 EVAP RE-ENTRY DUCT	29.6 DEGF	30.0	240.0					
	TD5032 EVAP EXH RE-ENTRY	87.1 DEGF	30.0	240.0		TD5034 EVAP EXH RE-ENTRY	92.4 DEGF	30.0	240
	TD5033 EVAP EXH RE-ENTRY	66.5 DEGF	30.0	240.0		TD5037 EVAP EXH RE-ENTRY	70.4 DEGF	30.0	240.0
	TD5034 EVAP EXH RE-ENTRY	51.2 DEGF	30.0	240.0		TD5038 EVAP EXH RE-ENTRY	144.0 DEGF	30.0	240.0
	TD5035 EVAP EXH RE-ENTRY	48.3 DEGF	30.0	240.0		TD5039 EVAP EXH RE-ENTRY	97.8 DEGF	30.0	240.0
						PN5051 H2O TK GN2 PRESS	41.5 PSI	-409.5	409
	PF5052 F-21 DIF PRSS EV 1	14.1 PSID	-409.5	409.5		PF5053 F-21 DIF PRSS EV 2	15.0 PSID	-409.5	409.5
	PW5054 H2O SUP PRSS TO EV	32.6 PSIA	-409.5	409.5		PW5055 H2O SUP PRSS TO EV	37.4 PSIA	-409.5	409.5
	PE5056 EVAP 1 CHMBR PRSS	2.41 TORR	-40.95	40.95		PE5057 EVAP 2 CHMBR PRSS	1.23 TORR	-40.95	40.95
	PD5058 EXHT DUCT PRSS DP	LLL TORR	-40.95	40.95		PD5065 EXHT DUCT PRSS DP	0.07 TORR	-40.95	40.
	PD5059 EXHT DUCT PRSS DP	0.33 TORR	-40.95	40.95		PD5066 EXHT DUCT PRSS DP	0.01 TORR	-40.95	40.95
	PD5060 EXHT DUCT PRSS DP	0.41 TORR	-40.95	40.95		PD5067 EXHT DUCT PRSS DP	0.16 TORR	-40.95	40.95
	PD5061 EXHT DUCT PRSS	1.12 TORR	-40.95	40.95		PD5068 EXHT DUCT PRSS DP	0.08 TORR	-40.95	40.95
	PD5062 EXHT DUCT PRSS	1.59 TORR	-40.95	40.95		PD5069 EXHT DUCT PRSS DP	0.46 TORR	-40.95	40.95
	PD5063 EXHT DUCT PRSS	1.55 TORR	-40.95	40.95	#	PD5070 EXHT DUCT PRSS DP	LLL TORR	-40.95	40.95
#	PD5064 EXHT DUCT PRSS	UUU TORR	-4.095	4.095	#	PD5071 EXHT DUCT PRSS DP	UUU TORR	-4.095	4.095
						FW5081 TOT H2O FLO TO EVP	13.7 PPH	-409.5	409
	FW5082 H2O FLO TO FL EVAP	14.9 PPH	-409.5	409.5		FW5083 H2O FLO TO FL EVAP	0.0 PPH	-409.5	409.5
						WT5091 H2O TANK WEIGHT	81.2 LBS	-409.5	409.5
	HI5170 TOP OFF DUCT HTR 1	2.07 AMPS	-40.95	40.95		HI5172 TOP OFF DUCT HTR 3	1.23 AMPS	-40.95	40.95
	HI5171 TOP OFF DUCT HTR 2	2.20 AMPS	-40.95	40.95		HI5173 TOP OFF DUCT HTR 4	1.34 AMPS	-40.95	40.95
	HI5174 R-ETY DT HTR PWR 1	0.42 AMPS	-40.95	40.95		HI5178 R-ETY DT HTR PWR 3	0.27 AMPS	-40.95	40.
	HI5175 R-ETY DT HTR PWR 2	0.32 AMPS	-40.95	40.95					
	HI5176 S S NOZZLE HTR	0.01 AMPS	-40.95	40.95		HI5177 S S NOZZLE HTR	0.00 AMPS	-40.95	40.
	FW5643 HI FL TO PRI VALV	2751 PPH	-4095	4095		FW5649 HI FLOW TO SEC PNL	2759 PPH	-4095	40
						FW5660 F21 TOTAL FLOW	5.54 KPPH	-40.95	40.95

PAGE 35 CSD IR/EVAP SCOUP (0005) CHAMBER A 1 120: 01 HRS: 30 MIN: 44 SEC

-MID-	---DESCRIPTION----	---VALUE---	----LIMITS----	-MID-	---DESCRIPTION----	---VALUE---	----LIMITS----
‡‡	Z05201 INST HT RJCT EV 1	13.2 KBTU	-409.5 409.5		Z05202 INST HT RJCT EV 2	1.9 KBTU	-409.5 409
					Z05203 INSTANT HEAT RJCT	15.1 KBTU	-409.5 409.5
	Z05211 TOT HT RJCT EVP 1	13.3 KBTU	-409.5 409.5		Z05212 TOT HT RJCT EVP 2	4.8 KBTU	-409.5 409.5
					Z05213 TOT HT RJCT	18.1 KBTU	-409.5 409.5
‡‡	Z05221 TOT WATR FLW EV 1	15.1 LBS	-409.5 409.5		Z05222 TOT WATR FLW EV 2	9.6 LBS	-409.5 409
					Z05224 TOT WATR FLW	24.7 LBS	-409.5 409.5
					Z05224 WATR TNK DIFF WT.	23.7 LBS	-409.5 409.5
‡‡‡	Z05231 SIG EVE TOT EVP 1	37.0 MIN	-409.5 409.5	*	Z05232 SIG EVE TOT EVP 2	37.0 MIN	-409.5 409
				*	Z05234 TOTAL TEST TIME	74.4 MIN	-409.5 409.5
‡‡	Z05241 AVG HT LOAD EVP 1A	10.7 KBTU	-409.5 409.5		Z05242 AVG HT LOAD EVP 2A	3.9 KBTU	-409.5 409
					Z05243 AVG HT LOAD A	14.6 KBTU	-409.5 409.5
‡‡	Z05251 AVG HT LOAD EVP 1B	0.0 KBTU	-409.5 409.5		Z05252 AVG HT LOAD EVP 2B	0.0 KBTU	-409.5 409
					Z05253 AVG HT LOAD B	0.0 KBTU	-409.5 409.5
‡	ZF5261 AVG WATR USE EV 1	12.2 LBSH	-409.5 409.5		ZF5262 AVG WATR USE EV 2	7.7 LBSH	-409.5 409.
					ZF5263 AVG WATR USE A	19.9 LBSH	-409.5 409.5
					ZF5264 AVG WATR USE B	19.1 LBSH	-409.5 409.5
‡‡‡	ZH5271 AVG ENT CHNG EV 1	883 BTUP	- 4095 4095		ZH5272 AVG ENT CHNG EV 2	500 BTUP	- 4095 4
					ZH5273 AVG ENTP CHNG A	736 BTUP	- 4095 4095
					ZH5281 AVG ENTP CHNG B	764 BTUP	- 4095 4095
‡‡	ZT5301 MIN F-21 OUT TEM 1	41.6 DEGF	-409.5 409.5		ZT5302 MIN F-21 OUT TEM 2	43.3 DEGF	-409.5 409
#	ZT5311 MAX F-21 OUT TEM 1	RRR DEGF	-409.5 409.5	#	ZT5312 MAX F-21 OUT TEM 2	RRR DEGF	-409.5 409.5
	Z05321 TP-OF DT HTR PWR 1	177.0 WATT	-409.5 409.5		Z05351 TP-OFF DUCT 1 AVG	130.8 DEGF	-409.5 409.5
	Z05322 TP-OF DT HTR PWR 2	146.9 WATT	-409.5 409.5		Z05352 TP-OFF DUCT 2 AVG	59.2 DEGF	-409.5 409.5
	Z05323 TP-OF DT HTR PWR 3	22.4 WATT	-409.5 409.5		Z05353 TP-OFF DUCT 3 AVG	59.9 DEGF	-409.5 409.5
	Z05324 TP-OF DT HTR PWR 4	19.9 WATT	-409.5 409.5		Z05354 TP-OFF DUCT 4 AVG	47.2 DEGF	-409.5 409.5
	Z05331 R-ETY DT HTR PWR 1	2.4 WATT	-409.5 409.5		Z05355 R-ETHY DUCT 1 AVG	43.6 DEGF	-409.5 409.5
	Z05332 R-ETY DT HTR PWR 2	1.9 WATT	-409.5 409.5		Z05356 R-ETHY DUCT 2 AVG	81.6 DEGF	-409.5 409.5
	Z05333 R-ETY DT HTR PWR 3	1.6 WATT	-409.5 409.5		Z05359 R-ETHY DUCT 3 AVG	55.3 DEGF	-409.5 409.5
	ZH5341 S S NOZ HTR PWR	0.0 WATT	-409.5 409.5		ZH5357 SS NOZZLE 1 AVG	33.8 DEGF	-409.5 409.5
	ZH5342 S S NOZ HTR PWR	0.0 WATT	-409.5 409.5		ZH5358 SS NOZZLE 2 AVG	6.1 DEGF	-409.5 409.5
‡‡	TM5403 MSFC ASPS TEMP 1	8.3 DEGF	-409.5 409.5		TM5404 MSFC ASPS TEMP 2	8.3 DEGF	-409.5 409
#	TF5501 P FLO CONT VLV IN	UUU DEGF	-409.5 409.5		TF5506 S FLO CONT VLV IN	94.0 DEGF	-409.5 409.5
#	TF5528 P CON OUT MIX CH	UUU DEGF	-409.5 409.5	#	TF5530 S CON OUT MIX CH	UUU DEGF	-409.5 409.5
#	TF5529 P CON OUT MIX CH	UUU DEGF	-409.5 409.5	#	TF5531 S CON OUT MIX CH	UUU DEGF	-409.5 409.5
	FM5643 HI FL TO PRI VALV	2751 PPH	- 4095 4095		FM5649 HI FLOW TO SEC PNL	2759 PPH	- 4095 4095

TP 4C

**	Z05201 INST HT REJCT EV 1	0.0 KBTU	-409.5 409.5	Z05202 INST HT REJCT EV 2	0.0 KBTU	-409.5	409
				Z05203 INSTANT HEAT REJCT	44.3 KBTU	-409.5	409.5
**	Z05211 TOT HT REJCT EVP 1	0.0 KBTU	-409.5 409.5	Z05212 TOT HT REJCT EVP 2	92.5 KBTU	-409.5	409
				Z05213 TOT HT REJCT	92.4 KBTU	-409.5	409.5
	Z05221 TOT WATR FLW EV 1	0.0 LBS	-409.5 409.5	Z05222 TOT WATR FLW EV 2	92.6 LBS	-409.5	409.5
				Z05223 TOT WATR FLW	92.8 LBS	-409.5	409.5
				Z05224 WATR TNK DIFF WT	93.7 LBS	-409.5	409.5
*	ZE5231 SIG EVE TOT EVP 1	112.9 MIN	-409.5 409.5	* ZE5232 SIG EVE TOT EVP 2	112.9 MIN	-409.5	409.5
				* ZE5234 TOTAL TEST TIME	112.9 MIN	-409.5	409.5
**	Z05241 AVG HT LOAD EVP 1A	0.0 KBTU	-409.5 409.5	Z05242 AVG HT LOAD EVP 2A	49.1 KBTU	-409.5	409
				Z05243 AVG HT LOAD A	49.1 KBTU	-409.5	409.5
*	Z05251 AVG HT LOAD EVP 1B	0.0 KBTU	-409.5 409.5	Z05252 AVG HT LOAD EVP 2B	0.0 KBTU	-409.5	409.
				Z05253 AVG HT LOAD B	0.0 KBTU	-409.5	409.5
**	ZE5261 AVG WATR USE EV 1	0.0 LBSM	-409.5 409.5	ZE5262 AVG WATR USE EV 2	49.7 LBSM	-409.5	409
				ZE5263 AVG WATR USE A	49.7 LBSM	-409.5	409.5
				ZE5264 AVG WATR USE B	48.2 LBSM	-409.5	409.5
***	ZH5271 AVG ENT CHNG EV 1	HHH BTUP	- 4095 4095	ZH5272 AVG ENT CHNG EV 2	994 BTUP	- 4095	40
				ZH5273 AVG ENTP CHNG A	994 BTUP	- 4095	4095
				ZH5281 AVG ENTP CHNG B	1013 BTUP	- 4095	4095
**	ZT5301 MIN F-21 OUT TEM 1	64.9 DEGF	-409.5 409.5	ZT5302 MIN F-21 OUT TEM 2	62.9 DEGF	-409.5	409
#	ZT5311 MAX F-21 OUT TEM 1	HHH DEGF	-409.5 409.5	# ZT5312 MAX F-21 OUT TEM 2	HHH DEGF	-409.5	409.5
**	Z05321 TP-OFF DT HTR PWR 1	20.1 WATT	-409.5 409.5	Z05351 TP-OFF DUCT 1 AVG	172.3 DEGF	-409.5	409
	Z05322 TP-OF DT HTR PWR 2	20.4 WATT	-409.5 409.5	Z05352 TP-OFF DUCT 2 AVG	172.3 DEGF	-409.5	409.5
	Z05323 TP-OF DT HTR PWR 3	50.4 WATT	-409.5 409.5	Z05353 TP-OFF DUCT 3 AVG	67.7 DEGF	-409.5	409.5
	Z05324 TP-OF DT HTR PWR 4	48.2 WATT	-409.5 409.5	Z05354 TP-OFF DUCT 4 AVG	115.4 DEGF	-409.5	409.5
	Z05331 R-ETY DT HTR PWR 1	173.7 WATT	-409.5 409.5	Z05355 R-ETRY DUCT 1 AVG	61.9 DEGF	-409.5	409.5
	Z05332 R-ETY DT HTR PWR 2	4.6 WATT	-409.5 409.5	Z05356 R-ETRY DUCT 2 AVG	58.1 DEGF	-409.5	409.5
	Z05333 R-ETY DT HTR PWR 3	8.9 WATT	-409.5 409.5	Z05359 R-ETRY DUCT 3 AVG	54.0 DEGF	-409.5	409.5
	Z05341 S S NOZ HTR PWR	19.4 WATT	-409.5 409.5	Z05357 SS NOZZLE 1 AVG	141.5 DEGF	-409.5	409.5
	Z05342 S S NOZ HTR PWR	19.4 WATT	-409.5 409.5	Z05358 SS NOZZLE 2 AVG	131.9 DEGF	-409.5	409.5
**	TM5403 MSFC ASPS TEMP 1	51.9 DEGF	-409.5 409.5	TM5404 MSFC ASPS TEMP 2	41.0 DEGF	-409.5	409
#	TF5501 P FLO CONT VLV IN	LLL DEGF	-409.5 409.5	TF5504 S FLO CONT VLV IN	149.3 DEGF	-409.5	409.5
#	TF5529 P CON OUT MIX CH	UUU DEGF	-409.5 409.5	# TF5530 S CON OUT MIX CH	UUU DEGF	-409.5	409.5
#	TF5529 P CON OUT MIX CH	UUU DEGF	-409.5 409.5	# TF5531 S CON OUT MIX CH	UUU DEGF	-409.5	409.5
**	FM5643 HT FL TO PRI VALV	2185 PPH	- 4095 4095	FM5649 HI FLOW TO SEC PNL	2759 PPH	- 4095	40

-MID-	---DESCRIPTION----	---VALUE---	----LIMITS----		-MID-	---DESCRIPTION----	---VALUE---	----LIMITS----	
**	TF5001 F-21 IN TO EVAP 1	46.9 DEGF	-409.5	409.5		TF5007 F-21 IN TO EVAP 2	134.0 DEGF	-409.5	409
	TF5002 F-21 IN TO EVAP 1	65.9 DEGF	-409.5	409.5		TF5008 F-21 IN TO EVAP 2	134.0 DEGF	-409.5	409.5
	TF5003 F-21 OUT OF EVAP 1	66.9 DEGF	-409.5	409.5		TF5009 F-21 OUT OF EVAP 2	67.0 DEGF	-409.5	409.5
	TF5004 F-21 OUT OF EVAP 1	66.9 DEGF	-409.5	409.5		TF5010 F-21 OUT OF EVAP 2	67.0 DEGF	-409.5	409.5
	TW5005 H2O IN TO EVAP 1	79.8 DEGF	-409.5	409.5		TW5011 H2O IN TO EVAP 2	79.8 DEGF	-409.5	409.5
	TW5006 H2O IN TO EVAP 1	79.8 DEGF	-409.5	409.5		TW5012 H2O IN TO EVAP 2	79.8 DEGF	-409.5	409.5
**	TW5011 H2O IN TO EVAP 2	79.8 DEGF	-409.5	409.5		TD5017 EVAP EXH TOPOFF DT	66.1 DEGF	30.0	240
	TW5012 H2O IN TO EVAP 2	79.8 DEGF	-409.5	409.5		TD5018 EVAP EXH TOPOFF DT	88.6 DEGF	30.0	240.0
	TD5013 EVAP EXH TOPOFF DT	103.1 DEGF	30.0	240.0		TD5019 EVAP EXH TOPOFF DT	215.0 DEGF	30.0	240.0
	TD5014 EVAP EXH TOPOFF DT	80.3 DEGF	30.0	240.0		TD5020 EVAP EXH TOPOFF DT	134.5 DEGF	30.0	240.0
	TD5015 EVAP EXH TOPOFF DT	214.6 DEGF	30.0	240.0	#	TD5021 EVAP EXH TOPOFF DT	72.1 DEGF	30.0	240.0
	TD5016 EVAP EXH TOPOFF DT	65.1 DEGF	30.0	240.0		TD5022 EVAP EXH TOPOFF DT	210.0 DEGF	30.0	240.0
	TD5023 EVAP RE-ENTRY DUCT	134.5 DEGF	30.0	240.0		TD5028 EVAP RE-ENTRY DUCT	54.1 DEGF	30.0	240.0
	TD5024 EVAP RE-ENTRY DUCT	148.5 DEGF	30.0	240.0		TD5024 EVAP RE-ENTRY DUCT	81.7 DEGF	30.0	240.0
	TD5025 EVAP RE-ENTRY DUCT	142.2 DEGF	30.0	240.0		TD5030 EVAP RE-ENTRY DUCT	58.1 DEGF	30.0	240.0
	TD5026 EVAP RE-ENTRY DUCT	121.5 DEGF	30.0	240.0		TD5031 EVAP RE-ENTRY DUCT	60.9 DEGF	30.0	240.0
	TD5027 EVAP RE-ENTRY DUCT	49.7 DEGF	30.0	240.0					
**	TD5032 EVAP EXH RE-ENTRY	55.4 DEGF	30.0	240.0		TD5036 EVAP EXH RE-ENTRY	54.1 DEGF	30.0	240
	TD5033 EVAP EXH RE-ENTRY	56.8 DEGF	30.0	240.0		TD5037 EVAP EXH RE-ENTRY	200.2 DEGF	30.0	240.0
	TD5034 EVAP EXH RE-ENTRY	52.6 DEGF	30.0	240.0		TD5038 EVAP EXH RE-ENTRY	219.5 DEGF	30.0	240.0
	TD5035 EVAP EXH RE-ENTRY	51.2 DEGF	30.0	240.0		TD5039 EVAP EXH RE-ENTRY	217.1 DEGF	30.0	240.0
**						PN5051 H2O TK GN2 PRESS	56.1 PSI	-409.5	409
	PF5052 F-21 DIF PRSS EV 1	0.2 PSID	-409.5	409.5		PF5053 F-21 DIF PRSS EV 2	15.6 PSID	-409.5	409.5
	PW5054 H2O SUP PRSS TO EV	44.9 PSIA	-409.5	409.5		PW5055 H2O SUP PRSS TO EV	41.1 PSIA	-409.5	409.5
	PF5056 EVAP 1 CHAMB PRSS	2.41 TORR	-40.95	40.95		PF5057 EVAP 2 CHAMB PRSS	3.50 TORR	-40.95	40.95
**	PD5058 EXHT DUCT PRSS DP	0.40 TORR	-40.95	40.95	#	PD5065 EXHT DUCT PRSS DP	.001 TORR	-40.95	40.
#	PD5059 EXHT DUCT PRSS DP	LLL TORR	-40.95	40.95		PD5066 EXHT DUCT PRSS DP	0.01 TORR	-40.95	40.95
	PD5060 EXHT DUCT PRSS DP	0.07 TORR	-40.95	40.95		PD5067 EXHT DUCT PRSS DP	0.01 TORR	-40.95	40.95
	PD5061 EXHT DUCT PRSS	0.65 TORR	-40.95	40.95		PD5068 EXHT DUCT PRSS DP	0.01 TORR	-40.95	40.95
	PD5062 EXHT DUCT PRSS	3.70 TORR	-40.95	40.95		PD5069 EXHT DUCT PRSS DP	0.01 TORR	-40.95	40.95
	PD5063 EXHT DUCT PRSS	2.37 TORR	-40.95	40.95		PD5070 EXHT DUCT PRSS DP	0.08 TORR	-40.95	40.95
	PD5064 EXHT DUCT PRSS	0.001 TORR	-4.095	4.095		PD5071 EXHT DUCT PRSS DP	0.001 TORR	-4.095	4.095
**						FW5081 TOT H2O FLO TO EVP	48.4 PPH	-409.5	409
	FW5082 H2O FLO TO FL EVAP	0.0 PPH	-409.5	409.5		FW5083 H2O FLO TO FL EVAP	49.2 PPH	-409.5	409.5
						WT5091 H2O TANK WEIGHT	5.9 LBS	-409.5	409.5
**	HT5170 TOP OFF DUCT HTR 1	0.59 AMPS	-40.95	40.95		HT5172 TOP OFF DUCT HTR 3	1.83 AMPS	-40.95	40.
	HT5171 TOP OFF DUCT HTR 2	0.80 AMPS	-40.95	40.95		HT5173 TOP OFF DUCT HTR 4	2.33 AMPS	-40.95	40.95
**	HT5174 P-ETY DT HTR PWR 1	3.47 AMPS	-40.95	40.95		HT5178 P-ETY DT HTR PWR 3	0.63 AMPS	-40.95	40.
	HT5175 P-ETY DT HTR PWR 2	0.56 AMPS	-40.95	40.95					
**	HT5176 S S NOZZLE HTR	0.26 AMPS	-40.95	40.95		HT5177 S S NOZZLE HTR	0.24 AMPS	-40.95	40.
	FW5643 HI FL TO PRI VALV	2185 PPH	-4095	4095		FW5649 HI FLOW TO SEC PNL	2750 PPH	-4095	4095
						FW5660 F21 TOTAL FLOW	4.98 KPPH	-40.95	40.95

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PAGE 31 FSS 1&2/EVAP SCRUB (DOME) CHANNEL A 1: 15 HRS, 30 MIN, 00 SEC

	DESCRIPTION	VALUE	UNITS	LIMITS		DESCRIPTION	VALUE	UNITS	LIMITS	
	TF5011 F-21 IN TO EVAP 1	64.4	DEGF	-409.5	409.5	TF5007 F-21 IN TO EVAP 2	137.1	DEGF	-409.5	409.5
	TF5012 F-21 IN TO EVAP 1	63.4	DEGF	-409.5	409.5	TF5008 F-21 IN TO EVAP 2	134.1	DEGF	-409.5	409.5
	TF5013 F-21 OUT OF EVAP 1	65.9	DEGF	-409.5	409.5	TF5009 F-21 OUT OF EVAP 2	65.5	DEGF	-409.5	409.5
	TF5014 F-21 OUT OF EVAP 1	65.9	DEGF	-409.5	409.5	TF5010 F-21 OUT OF EVAP 2	65.6	DEGF	-409.5	409.5
	TF5035 H2O IN TO EVAP 1	45.5	DEGF	-409.5	409.5	TF5011 H2O IN TO EVAP 2	51.7	DEGF	-409.5	409.5
	TF5036 H2O IN TO EVAP 1	45.5	DEGF	-409.5	409.5	TF5012 H2O IN TO EVAP 2	51.7	DEGF	-409.5	409.5
‡‡	TF5011 H2O IN TO EVAP 2	50.7	DEGF	-409.5	409.5	TD5017 EVAP EXH TURBOFF OT	86.1	DEGF	30.0	240
	TF5012 H2O IN TO EVAP 2	50.7	DEGF	-409.5	409.5	TD5018 EVAP EXH TURBOFF OT	95.1	DEGF	30.0	240.0
	TD5013 EVAP EXH TURBOFF OT	107.1	DEGF	30.0	240.0	TD5019 EVAP EXH TURBOFF OT	163.6	DEGF	30.0	240.0
	TD5014 EVAP EXH TURBOFF OT	95.4	DEGF	30.0	240.0	TD5020 EVAP EXH TURBOFF OT	149.8	DEGF	30.0	240.0
	TD5015 EVAP EXH TURBOFF OT	174.4	DEGF	30.0	240.0	‡ TD5021 EVAP EXH TURBOFF OT	- 87.7	DEGF	30.0	240.0
	TD5016 EVAP EXH TURBOFF OT	63.7	DEGF	30.0	240.0	TD5022 EVAP EXH TURBOFF OT	162.2	DEGF	30.0	240.0
‡‡	TD5023 EVAP RE-ENTRY DUCT	146.0	DEGF	30.0	240.0	TD5028 EVAP RE-ENTRY DUCT	93.8	DEGF	30.0	240
	TD5024 EVAP RE-ENTRY DUCT	162.2	DEGF	30.0	240.0	TD5029 EVAP RE-ENTRY DUCT	93.8	DEGF	30.0	240.0
	TD5025 EVAP RE-ENTRY DUCT	149.8	DEGF	30.0	240.0	TD5030 EVAP RE-ENTRY DUCT	83.8	DEGF	30.0	240.0
	TD5026 EVAP RE-ENTRY DUCT	128.0	DEGF	30.0	240.0	TD5031 EVAP RE-ENTRY DUCT	73.4	DEGF	30.0	240.0
	TD5027 EVAP RE-ENTRY DUCT	58.1	DEGF	30.0	240.0					
‡‡	TD5032 EVAP EXH RE-ENTRY	67.6	DEGF	30.0	240.0	TD5036 EVAP EXH RE-ENTRY	64.6	DEGF	30.0	240
	TD5033 EVAP EXH RE-ENTRY	62.3	DEGF	30.0	240.0	TD5037 EVAP EXH RE-ENTRY	170.9	DEGF	30.0	240.0
	TD5034 EVAP EXH RE-ENTRY	55.4	DEGF	30.0	240.0	TD5038 EVAP EXH RE-ENTRY	177.2	DEGF	30.0	240.0
	TD5035 EVAP EXH RE-ENTRY	52.6	DEGF	30.0	240.0	TD5039 EVAP EXH RE-ENTRY	180.0	DEGF	30.0	240.0
‡‡						PW5051 H2O TK GN2 PRESS	50.4	PSI	-409.5	409
	PF5052 F-21 DIF PRSS EV 1	8.9	PSID	-409.5	409.5	PF5053 F-21 DIF PRSS EV 2	15.7	PSID	-409.5	409.5
	PW5054 H2O SUP PRSS TO EV	43.7	PSIA	-409.5	409.5	PW5055 H2O SUP PRSS TO EV	39.7	PSIA	-409.5	409.5
	PE5056 EVAP 1 CHMBR PRSS	2.45	TORR	-40.95	40.95	PE5057 EVAP 2 CHMBR PRSS	3.63	TORR	-40.95	40.95
‡‡	PD5058 EXHT DUCT PRSS DP	0.38	TORR	-40.95	40.95	# PD5065 EXHT DUCT PRSS DP	.001	TORR	-40.95	40.
#	PD5059 EXHT DUCT PRSS DP	LLL	TORR	-40.95	40.95	PD5066 EXHT DUCT PRSS DP	0.01	TORR	-40.95	40.95
	PD5060 EXHT DUCT PRSS DP	0.08	TORR	-40.95	40.95	PD5067 EXHT DUCT PRSS DP	0.01	TORR	-40.95	40.95
	PD5061 EXHT DUCT PRSS	0.05	TORR	-40.95	40.95	PD5068 EXHT DUCT PRSS DP	0.01	TORR	-40.95	40.95
	PD5062 EXHT DUCT PRSS	3.68	TORR	-40.95	40.95	PD5069 EXHT DUCT PRSS DP	0.01	TORR	-40.95	40.95
	PD5063 EXHT DUCT PRSS	2.45	TORR	-40.95	40.95	PD5070 EXHT DUCT PRSS DP	0.06	TORR	-40.95	40.95
	PD5064 EXHT DUCT PRSS	0.001	TORR	-4.095	4.095	PD5071 EXHT DUCT PRSS DP	0.001	TORR	-4.095	4.095
‡‡						FW5081 TOT H2O FLO TO EVP	50.9	PPH	-409.5	409
	FW5082 H2O FLO TO FL EVAP	0.0	PPH	-409.5	409.5	FW5083 H2O FLO TO FL EVAP	44.0	PPH	-409.5	409.5
						WT5091 H2O TANK WEIGHT	91.4	LBS	-409.5	409.5
‡‡	HI5170 TOP OFF DUCT HTR 1	- 0.01	AMPS	-40.95	40.95	HI5172 TOP OFF DUCT HTR 3	- 0.01	AMPS	-40.95	40.
	HI5171 TOP OFF DUCT HTR 2	0.00	AMPS	-40.95	40.95	HI5173 TOP OFF DUCT HTR 4	- 0.02	AMPS	-40.95	40.95
‡‡	HI5174 R-ETY DT HTR PWR 1	3.41	AMPS	-40.95	40.95	HI5178 R-ETY DT HTR PWR 3	0.66	AMPS	-40.95	40.
	HI5175 R-ETY DT HTR PWR 2	0.57	AMPS	-40.95	40.95					
‡‡	HI5176 S S NOZZLE HTR	0.26	AMPS	-40.95	40.95	HI5177 S S NOZZLE HTR	0.26	AMPS	-40.95	40.
‡‡	FW5648 HI FL TO PRI VALV	2132	PPH	- 4095	4095	FW5649 HI FLOW TO SEC PNL	2759	PPH	- 4095	40
						FW5660 F21 TOTAL FLOW	4.92	KPPH	-40.95	40.95

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PAGE 03 FSD IA/EVAP SCHUP (6006) CHAMBER A DAY 121, 15 HRS, 30 MINS, 00 SEC

	-MID-	---DESCRIPTION---	---VALUE---	----LIMITS----		-MID-	---DESCRIPTION---	---VALUE---	----LIMITS----	
‡‡	Z05201	INST HT REJCT EV 1	0.5 KBTU	-409.5 409.5		Z05202	INST HT REJCT EV 2	52.6 KBTU	-409.5 409	
						Z05203	INSTANT HEAT REJCT	52.1 KBTU	-409.5 409.5	
‡‡	Z05211	TOT HT REJCT EVP 1	0.0 KBTU	-409.5 409.5		Z05212	TOT HT REJCT EVP 2	29.7 KBTU	-409.5 409	
						Z05213	TOT HT REJCT	29.7 KBTU	-409.5 409.5	
‡‡	Z05221	TOT WATR FLW EV 1	0.0 LBS	-409.5 409.5		Z05222	TOT WATR FLW EV 2	28.9 LBS	-409.5 409	
						Z05223	TOT WATR FLW	28.9 LBS	-409.5 409.5	
						Z05224	WATR TNK DIFF WT	27.9 LBS	-409.5 409.5	
‡‡	ZE5231	SIG EVE TOT EVP 1	35.0 MIN	-409.5 409.5	*	ZE5232	SIG EVE TOT EVP 2	35.0 MIN	-409.5 409	
					*	ZE5234	TOTAL TEST TIME	35.0 MIN	-409.5 409.5	
‡‡	Z05241	AVG HT LOAD EVP 1A	0.1 KBTU	-409.5 409.5		Z05242	AVG HT LOAD EVP 2A	50.9 KBTU	-409.5 409	
						Z05243	AVG HT LOAD A	50.9 KBTU	-409.5 409.5	
‡‡	Z05251	AVG HT LOAD EVP 1B	0.0 KBTU	-409.5 409.5		Z05252	AVG HT LOAD EVP 2B	50.0 KBTU	-409.5 409	
						Z05253	AVG HT LOAD B	50.0 KBTU	-409.5 409.5	
‡‡	ZF5261	AVG WATR USE EV 1	0.0 LBSM	-409.5 409.5		ZF5262	AVG WATR USE EV 2	46.6 LBSM	-409.5 409	
						ZF5263	AVG WATR USE A	49.6 LBSM	-409.5 409.5	
						ZF5264	AVG WATR USE B	47.8 LBSM	-409.5 409.5	
#	ZH5271	AVG ENT CHNG EV 1	RRR BTUP	-4095 4095		ZH5272	AVG ENT CHNG EV 2	1029 BTUP	-4095 4095	
						ZH5273	AVG ENTP CHNG A	1028 BTUP	-4095 4095	
						ZH5281	AVG ENTP CHNG B	1069 BTUP	-4095 4095	
‡‡	ZT5301	MIN F-21 OUT TEM 1	64.9 DEGF	-409.5 409.5		ZT5302	MIN F-21 OUT TEM 2	64.9 DEGF	-409.5 409	
#	ZT5311	MAX F-21 OUT TEM 1	RRR DEGF	-409.5 409.5	#	ZT5312	MAX F-21 OUT TEM 2	RRR DEGF	-409.5 409.5	
‡‡	Z05321	TP-OFF DT HTR PWR 1	0.0 WATT	-409.5 409.5		Z05351	TP-OFF DUCT 1 AVG	151.5 DEGF	-409.5 409	
	Z05322	TP-OF DT HTR PWR 2	0.0 WATT	-409.5 409.5		Z05352	TP-OFF DUCT 2 AVG	152.1 DEGF	-409.5 409.5	
	Z05323	TP-OF DT HTR PWR 3	0.0 WATT	-409.5 409.5		Z05353	TP-OFF DUCT 3 AVG	46.1 DEGF	-409.5 409.5	
	Z05324	TP-OF DT HTR PWR 4	0.0 WATT	-409.5 409.5		Z05354	TP-OFF DUCT 4 AVG	97.0 DEGF	-409.5 409.5	
	Z05331	R-ETY DT HTR PWR 1	174.9 WATT	-409.5 409.5		Z05355	R-ETRY DUCT 1 AVG	82.2 DEGF	-409.5 409.5	
	Z05332	R-ETY DT HTR PWR 2	5.3 WATT	-409.5 409.5		Z05356	R-ETRY DUCT 2 AVG	69.2 DEGF	-409.5 409.5	
	Z05333	R-ETY DT HTR PWR 3	10.1 WATT	-409.5 409.5		Z05359	R-ETRY DUCT 3 AVG	56.8 DEGF	-409.5 409.5	
	ZN5341	S S NOZ HTR PWR	22.2 WATT	-409.5 409.5		ZN5357	SS NOZZLE 1 AVG	154.1 DEGF	-409.5 409.5	
	ZN5342	S-S NOZ HTR PWR	19.4 WATT	-409.5 409.5		ZN5358	SS NOZZLE 2 AVG	139.6 DEGF	-409.5 409.5	
‡‡	TM5403	NSFC ASPS TEMP 1	53.3 DEGF	-409.5 409.5		TM5404	NSFC ASPS TEMP 2	44.1 DEGF	-409.5 409	
#	TF5501	P FLO CONT VLV IN	LLL DEGF	-409.5 409.5	#	TF5506	S FLO CONT VLV IN	UUU DEGF	-409.5 409.5	
#	TF5502	P CON OUT MIX CH	UUU DEGF	-409.5 409.5	#	TF5530	S CON OUT MIX CH	UUU DEGF	-409.5 409.5	
#	TF5503	P CON OUT MIX CH	UUU DEGF	-409.5 409.5	#	TF5531	S CON OUT MIX CH	UUU DEGF	-409.5 409.5	
‡‡	FM5643	HI FL TO PRI VALV	2132 PPH	-4095 4095		FM5649	HI FLOW TO SEC PNL	2759 PPH	-4095 40	

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PAGE 01 ESD IR/EVAP SCOOP (0036) CHAMBER A DAY 121, 17 HRS, 32 MIN, 50 SEC

-MID-	-DESCRIPTION-	-VALUE-	-LIMITS-	
TF5001	F-21 IN TO EVAP 1	86.4 DEGF	-409.5	409.5
TF5002	F-21 IN TO EVAP 1	84.5 DEGF	-409.5	409.5
TF5003	F-21 OUT OF EVAP 1	68.9 DEGF	-409.5	409.5
TF5004	F-21 OUT OF EVAP 1	68.9 DEGF	-409.5	409.5
TW5005	H2O IN TO EVAP 1	128.5 DEGF	-409.5	409.5
TW5006	H2O IN TO EVAP 1	128.5 DEGF	-409.5	409.5
TW5011	H2O IN TO EVAP 2	121.1 DEGF	-409.5	409.5
TW5012	H2O IN TO EVAP 2	121.1 DEGF	-409.5	409.5
TD5013	EVAP EXH TOPOFF DT	103.1 DEGF	30.0	240.0
TD5014	EVAP EXH TOPOFF DT	91.1 DEGF	30.0	240.0
TD5015	EVAP EXH TOPOFF DT	139.5 DEGF	30.0	240.0
TD5016	EVAP EXH TOPOFF DT	78.9 DEGF	30.0	240.0
TD5023	EVAP RE-ENTRY DUCT	144.8 DEGF	30.0	240.0
TD5024	EVAP RE-ENTRY DUCT	142.2 DEGF	30.0	240.0
TD5025	EVAP RE-ENTRY DUCT	139.6 DEGF	30.0	240.0
TD5026	EVAP RE-ENTRY DUCT	112.5 DEGF	30.0	240.0
TD5027	EVAP RE-ENTRY DUCT	48.3 DEGF	30.0	240.0
TD5032	EVAP EXH RE-ENTRY	41.1 DEGF	30.0	240.0
TD5033	EVAP EXH RE-ENTRY	60.9 DEGF	30.0	240.0
TD5034	EVAP EXH RE-ENTRY	52.6 DEGF	30.0	240.0
TD5035	EVAP EXH RE-ENTRY	52.6 DEGF	30.0	240.0
PF5042	F-21 DIF PRSS FV 1	14.6 PSID	-409.5	409.5
PW5044	H2O SUP PRSS TO EV	45.5 PSIA	-409.5	409.5
PE5045	EVAP 1 CHMBR PRSS	3.11 TORR	-40.95	40.95
PD5049	EXHT DUCT PRSS DP	0.48 TORR	-40.95	40.95
PD5049	EXHT DUCT PRSS DP	0.26 TORR	-40.95	40.95
PD5040	EXHT DUCT PRSS DP	0.17 TORR	-40.95	40.95
PD5041	EXHT DUCT PRSS	0.39 TORR	-40.95	40.95
PD5042	EXHT DUCT PRSS	4.17 TORR	-40.95	40.95
PD5043	EXHT DUCT PRSS	3.11 TORR	-40.95	40.95
PD5044	EXHT DUCT PRSS	0.001 TORR	-40.95	40.95
FW5042	H2O FLO TO FL EVAP	0.0 PPH	-409.5	409.5
HIS170	TOP OFF DUCT HTR 1	0.00 AMPS	-40.95	40.95
HIS171	TOP OFF DUCT HTR 2	0.00 AMPS	-40.95	40.95
HIS176	HEATY DT HTR PWR 1	4.21 AMPS	-40.95	40.95
HIS175	HEATY DT HTR PWR 2	0.63 AMPS	-40.95	40.95
HIS174	S S NOZZLE HTR	0.00 AMPS	-40.95	40.95
FW5044	HI FLO TO SEC VALV	2751 PPH	-4095	4095

-MID-	-DESCRIPTION-	-VALUE-	-LIMITS-	
TF5007	F-21 IN TO EVAP 2	137.0 DEGF	-409.5	409.5
TF5008	F-21 IN TO EVAP 2	134.6 DEGF	-409.5	409.5
TF5009	F-21 OUT OF EVAP 2	66.0 DEGF	-409.5	409.5
TF5010	F-21 OUT OF EVAP 2	64.6 DEGF	-409.5	409.5
TW5011	H2O IN TO EVAP 2	121.1 DEGF	-409.5	409.5
TW5012	H2O IN TO EVAP 2	121.1 DEGF	-409.5	409.5
TD5017	EVAP EXH TOPOFF DT	78.9 DEGF	30.0	240
TD5018	EVAP EXH TOPOFF DT	80.3 DEGF	30.0	240.0
TD5019	EVAP EXH TOPOFF DT	124.0 DEGF	30.0	240.0
TD5020	EVAP EXH TOPOFF DT	149.8 DEGF	30.0	240.0
TD5021	EVAP EXH TOPOFF DT	96.5 DEGF	30.0	240.0
TD5022	EVAP EXH TOPOFF DT	142.2 DEGF	30.0	240.0
TD5028	EVAP RE-ENTRY DUCT	63.7 DEGF	30.0	240
TD5029	EVAP RE-ENTRY DUCT	77.6 DEGF	30.0	240.0
TD5030	EVAP RE-ENTRY DUCT	83.0 DEGF	30.0	240.0
TD5031	EVAP RE-ENTRY DUCT	59.6 DEGF	30.0	240.0
TD5038	EVAP EXH RE-ENTRY	60.2 DEGF	30.0	240
TD5037	EVAP EXH RE-ENTRY	134.5 DEGF	30.0	240.0
TD5038	EVAP EXH RE-ENTRY	134.3 DEGF	30.0	240.0
TD5039	EVAP EXH RE-ENTRY	140.0 DEGF	30.0	240.0
PN5051	H2O TK GN2 PRESS	52.8 PSI	-409.5	409.5
PF5053	F-21 DIF PRSS FV 2	15.1 PSID	-409.5	409.5
PW5055	H2O SUP PRSS TO EV	40.8 PSIA	-409.5	409.5
PE5057	EVAP 2 CHMBR PRSS	3.97 TORR	-40.95	40.95
PD5064	EXHT DUCT PRSS DP	0.94 TORR	-40.95	40.
PD5066	EXHT DUCT PRSS DP	0.01 TORR	-40.95	40.95
PD5067	EXHT DUCT PRSS DP	0.01 TORR	-40.95	40.95
PD5068	EXHT DUCT PRSS DP	0.01 TORR	-40.95	40.95
PD5069	EXHT DUCT PRSS DP	0.01 TORR	-40.95	40.95
PD5070	EXHT DUCT PRSS DP	0.39 TORR	-40.95	40.95
PD5071	EXHT DUCT PRSS DP	0.001 TORR	-40.95	4.095
FW5061	TOT H2O FLO TO EVP	51.0 PPH	-409.5	409
FW5063	H2O FLO TO FL EVAP	50.8 PPH	-409.5	409.5
WIS091	H2O TANK HEIGHT	88.0 INS	-409.5	409.5
HIS172	TOP OFF DUCT HTR 4	0.01 AMPS	-40.95	40.95
HIS173	TOP OFF DUCT HTR 5	0.00 AMPS	-40.95	40.95
HIS178	HEATY DT HTR PWR 3	0.50 AMPS	-40.95	40.
HIS177	S S NOZZLE HTR	0.26 AMPS	-40.95	40.
FW5046	HI FLOW TO SEC PNL	2758 PPH	-4095	40
FW5060	F21 TOTAL FLOW	5.51 KPPH	-40.95	40.95

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PAGE 02 CSD IP/EVAP SCOOP (0006) CHAMBER A DAY 121, 17 HRS. 32 MIN. 50 SEC

-MID-	---DESCRIPTION----	---VALUE---	----LIMITS----		-MID-	---DESCRIPTION----	---VALUE---	----LIMITS----	
‡‡	ZQ5201 INST HT RJCT EV 1	12.2 KBTU	-409.5	409.5		ZQ5202 INST HT RJCT EV 2	50.3 KBTU	-409.5	409
						ZQ5203 INSTANT HEAT RJCT	62.6 KBTU	-409.5	409.5
‡‡	ZQ5211 TOT HT RJCT EVP 1	0.1 KBTU	-409.5	409.5		ZQ5212 TOT HT RJCT EVP 2	24.3 KBTU	-409.5	409
						ZQ5213 TOT HT RJCT	26.4 KBTU	-409.5	409.5
‡‡	ZW5221 TOT WATR FLW EV 1	0.2 LBS	-409.5	409.5		ZW5222 TOT WATR FLW EV 2	27.0 LBS	-409.5	409
						ZW5223 TOT WATR FLW	27.3 LBS	-409.5	409.5
						ZW5224 WATR TNK DIFF WT.	26.7 LBS	-409.5	409.5
*	ZE5231 SIG EVE TOT EVP 1	32.8 MIN	-409.5	409.5	*	ZE5232 SIG EVE TOT EVP 2	32.8 MIN	-409.5	409.5
					*	ZE5234 TOTAL TEST TIME	32.8 MIN	-409.5	409.5
‡‡	ZQ5241 AVG HT LOAD EVP 1A	0.2 KBTU	-409.5	409.5		ZQ5242 AVG HT LOAD EVP 2A	48.1 KBTU	-409.5	409
						ZQ5243 AVG HT LOAD A	48.3 KBTU	-409.5	409.5
‡‡	ZQ5251 AVG HT LOAD EVP 1B	0.3 KBTU	-409.5	409.5		ZQ5252 AVG HT LOAD EVP 2B	50.0 KBTU	-409.5	409
						ZQ5253 AVG HT LOAD B	50.3 KBTU	-409.5	409.5
‡‡	ZF5261 AVG WATR USE EV 1	0.4 LBSM	-409.5	409.5		ZF5262 AVG WATR USE EV 2	49.4 LBSM	-409.5	409
						ZF5263 AVG WATR USE A	49.9 LBSM	-409.5	409.5
						ZF5264 AVG WATR USE B	48.8 LBSM	-409.5	409.5
‡‡	ZW5271 AVG ENT CHNG EV 1	456 BTUP	- 4095	4095		ZW5272 AVG ENT CHNG EV 2	973 BTUP	- 4095	40
						ZW5273 AVG ENTP CHNG A	968 BTUP	- 4095	4095
						ZW5281 AVG ENTP CHNG B	980 BTUP	- 4095	4095
‡‡	ZT5301 MIN F-21 OUT TEM 1	67.9 DEGF	-409.5	409.5		ZT5302 MIN F-21 OUT TEM 2	68.9 DEGF	-409.5	409
#	ZT5311 MAX F-21 OUT TEM 1	RRR DEGF	-409.5	409.5	#	ZT5312 MAX F-21 OUT TEM 2	RRR DEGF	-409.5	409.5
‡‡	ZQ5321 TP-OF DT HTR PWR 1	0.0 WATT	-409.5	409.5		ZQ5351 TP-OFF DUCT 1 AVG	123.4 DEGF	-409.5	409
	ZQ5322 TP-OF DT HTR PWR 2	0.0 WATT	-409.5	409.5		ZQ5352 TP-OFF DUCT 2 AVG	125.7 DEGF	-409.5	409.5
	ZQ5323 TP-OF DT HTR PWR 3	0.0 WATT	-409.5	409.5		ZQ5353 TP-OFF DUCT 3 AVG	41.5 DEGF	-409.5	409.5
	ZQ5324 TP-OF DT HTR PWR 4	0.0 WATT	-409.5	409.5		ZQ5354 TP-OFF DUCT 4 AVG	95.3 DEGF	-409.5	409.5
	ZQ5331 R-ETY DT HTR PWR 1	152.3 WATT	-409.5	409.5		ZQ5355 R-ETRY DUCT 1 AVG	68.5 DEGF	-409.5	409.5
	ZQ5332 R-ETY DT HTR PWR 2	2.9 WATT	-409.5	409.5		ZQ5356 R-ETRY DUCT 2 AVG	57.1 DEGF	-409.5	409.5
	ZQ5333 R-ETY DT HTR PWR 3	5.9 WATT	-409.5	409.5		ZQ5359 R-ETRY DUCT 3 AVG	55.4 DEGF	-409.5	409.5
	ZW5341 S S NOZ HTR PWR	19.4 WATT	-409.5	409.5		ZW5357 SS NOZZLE 1 AVG	153.5 DEGF	-409.5	409.5
	ZW5342 S S NOZ HTR PWR	19.4 WATT	-409.5	409.5		ZW5358 SS NOZZLE 2 AVG	124.1 DEGF	-409.5	409.5
‡‡	TW6403 MSFC ASPS TEMP 1	64.2 DEGF	-409.5	409.5		TW6404 MSFC ASPS TEMP 2	54.4 DEGF	-409.5	409
*	TF5501 P FLD CONT VLV IN	LLL DEGF	-409.5	409.5	*	TF5506 S FLD CONT VLV IN	192.1 DEGF	-409.5	409.5
*	TF5529 P CON OUT MIX CH	UUU DEGF	-409.5	409.5	*	TF5530 S CON OUT MIX CH	UUU DEGF	-409.5	409.5
*	TF5529 P CON OUT MIX CH	UUU DEGF	-409.5	409.5	*	TF5531 S CON OUT MIX CH	UUU DEGF	-409.5	409.5
‡‡	FW6963 HI FL TO PRI VALV	2751 PPH	- 4095	4095		FW6640 HI FLOW TO SEC PNL	2750 PPH	- 4095	40

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PAGE 31 CSD 1A7/EVAP SCOOP (DOUG) CHAMBER A DAY 121, 17 HRS, 10 MIN, 00 SEC

-MI---	---DESCRIPTION----	---VALUE---	----LIMITS----	
**	TF5031 F-21 IN TO EVAP 1	135.1 DEGF	-409.5	409.5
	TF5032 F-21 IN TO EVAP 1	133.2 DEGF	-409.5	409.5
	TF5034 F-21 OUT OF EVAP 1	70.9 DEGF	-409.5	409.5
	TF5035 F-21 OUT OF EVAP 1	70.9 DEGF	-409.5	409.5
	TW5038 H2O IN TO EVAP 1	124.8 DEGF	-409.5	409.5
	TW5039 H2O IN TO EVAP 1	124.8 DEGF	-409.5	409.5
**	TW5011 H2O IN TO EVAP 2	126.7 DEGF	-409.5	409.5
	TW5012 H2O IN TO EVAP 2	126.7 DEGF	-409.5	409.5
	TD5013 EVAP EXH TOPOFF DT	100.4 DEGF	30.0	240.0
	TD5014 EVAP EXH TOPOFF DT	101.8 DEGF	30.0	240.0
	TD5015 EVAP EXH TOPOFF DT	115.1 DEGF	30.0	240.0
	TD5016 EVAP EXH TOPOFF DT	95.1 DEGF	30.0	240.0
**	TD5023 EVAP RE-ENTRY DUCT	139.6 DEGF	30.0	240.0
	TD5024 EVAP RE-ENTRY DUCT	158.5 DEGF	30.0	240.0
	TD5025 EVAP RE-ENTRY DUCT	133.2 DEGF	30.0	240.0
	TD5026 EVAP RE-ENTRY DUCT	101.8 DEGF	30.0	240.0
	TD5027 EVAP RE-ENTRY DUCT	158.5 DEGF	30.0	240.0
**	TD5032 EVAP EXH RE-ENTRY	70.6 DEGF	30.0	240.0
	TD5033 EVAP EXH RE-ENTRY	51.2 DEGF	30.0	240.0
	TD5034 EVAP EXH RE-ENTRY	44.3 DEGF	30.0	240.0
	TD5035 EVAP EXH RE-ENTRY	48.3 DEGF	30.0	240.0
	PE5052 F-21 DIF PRSS EV 1	14.1 PSID	-409.5	409.5
	PW5054 H2O SUP PRSS TO EV	40.9 PSIA	-409.5	409.5
	PE5056 EVAP 1 CHMBR PRSS	3.74 TORR	-40.95	40.95
**	PD5059 EXHT DUCT PRSS DP	LLL TORR	-40.95	40.95
	PD5060 EXHT DUCT PRSS DP	0.42 TORR	-40.95	40.95
#	PD5040 EXHT DUCT PRSS DP	JUU TORR	-40.95	40.95
	PD5041 EXHT DUCT PRSS	0.73 TORR	-40.95	40.95
	PD5042 EXHT DUCT PRSS	3.43 TORR	-40.95	40.95
	PD5043 EXHT DUCT PRSS	3.70 TORR	-40.95	40.95
	PD5044 EXHT DUCT PRSS	0.001 TORR	-4.095	4.095
**	FW5082 H2O FLO TO FL EVAP	50.2 PPH	-409.5	409.5
**	HI5170 TOP OFF DUCT HTR 1	- 0.01 AMPS	-40.95	40.95
	HI5171 TOP OFF DUCT HTR 2	0.00 AMPS	-40.95	40.95
**	HI5174 R-ETY DT HTR PWR 1	1.33 AMPS	-40.95	40.95
	HI5175 R-ETY DT HTR PWR 2	- 0.04 AMPS	-40.95	40.95
**	HI5176 S S NOZZLE HTR	0.27 AMPS	-40.95	40.95
**	FW5063 HI FL TO PDI VALV	2751 PPH	- 4095	4095

-MI---	---DESCRIPTION----	---VALUE---	----LIMITS----	
	TF5067 F-21 IN TO EVAP 2	100.6 DEGF	-409.5	409
	TF5068 F-21 IN TO EVAP 2	101.8 DEGF	-409.5	409.5
	TF5070 F-21 OUT OF EVAP 2	101.8 DEGF	-409.5	409.5
	TF5071 F-21 OUT OF EVAP 2	101.8 DEGF	-409.5	409.5
	TW5011 H2O IN TO EVAP 2	126.7 DEGF	-409.5	409.5
	TW5012 H2O IN TO EVAP 2	126.7 DEGF	-409.5	409.5
	TD5017 EVAP EXH TOPOFF DT	99.8 DEGF	30.0	240
	TD5018 EVAP EXH TOPOFF DT	69.2 DEGF	30.0	240.0
	TD5019 EVAP EXH TOPOFF DT	107.1 DEGF	30.0	240.0
	TD5020 EVAP EXH TOPOFF DT	147.3 DEGF	30.0	240.0
	TD5021 EVAP EXH TOPOFF DT	LLL DEGF	30.0	240.0
	TD5022 EVAP EXH TOPOFF DT	130.6 DEGF	30.0	240.0
	TD5028 EVAP RE-ENTRY DUCT	233.6 DEGF	30.0	240
	TD5029 EVAP RE-ENTRY DUCT	122.8 DEGF	30.0	240.0
	TD5030 EVAP RE-ENTRY DUCT	62.3 DEGF	30.0	240.0
	TD5031 EVAP RE-ENTRY DUCT	39.7 DEGF	30.0	240.0
	TD5036 EVAP EXH RE-ENTRY	31.0 DEGF	30.0	240
	TD5037 EVAP EXH RE-ENTRY	109.0 DEGF	30.0	240.0
	TD5038 EVAP EXH RE-ENTRY	119.1 DEGF	30.0	240.0
	TD5039 EVAP EXH RE-ENTRY	116.6 DEGF	30.0	240.0
	PW5051 H2O TK GN2 PRESS	55.1 PSI	-409.5	409.5
	PE5053 F-21 DIF PRSS EV 2	15.3 PSID	-409.5	409.5
	PW5055 H2O SUP PRSS TO EV	68.2 PSIA	-409.5	409.5
	PE5057 EVAP 2 CHMBR PRSS	3.27 TORR	-40.95	40.95
	PD5065 EXHT DUCT PRSS DP	0.06 TORR	-40.95	40.
	PD5066 EXHT DUCT PRSS DP	0.01 TORR	-40.95	40.95
	PD5067 EXHT DUCT PRSS DP	0.01 TORR	-40.95	40.95
	PD5068 EXHT DUCT PRSS DP	0.01 TORR	-40.95	40.95
	PD5069 EXHT DUCT PRSS DP	0.01 TORR	-40.95	40.95
	PD5070 EXHT DUCT PRSS DP	0.74 TORR	-40.95	40.95
	PD5071 EXHT DUCT PRSS DP	0.001 TORR	-4.095	4.095
	FW5081 TOT H2O FLO TO EVP	50.3 PPH	-409.5	409
	FW5083 H2O FLO TO FL EVAP	0.0 PPH	-409.5	409.5
	WT5091 H2O TANK WEIGHT	99.6 LBS	-409.5	409.5
	HI5172 TOP OFF DUCT HTR 3	0.01 AMPS	-40.95	40.
	HI5173 TOP OFF DUCT HTR 4	- 0.02 AMPS	-40.95	40.95
	HI5178 R-ETY DT HTR PWR 3	0.67 AMPS	-40.95	40.
	HI5177 S S NOZZLE HTR	0.27 AMPS	-40.95	40.
	FW5640 HI FLOW TO SEC PNL	2759 PPH	- 4095	40
	FW5660 F21 TOTAL FLOW	5.5 KPPH	-40.95	40.95

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PAGE 09 CSD IR/EVAP SCOOP (0005) CHAMBER A DAY 11, 19 HRS, 10 MIN, 00 SEC

MID	DESCRIPTION	VALUE	LIMITS		MID	DESCRIPTION	VALUE	LIMITS	
ZQ5201	INST HT RJCT EV 1	46.0 KBTU/HR	-409.5	409.5	ZQ5202	INST HT RJCT EV 2	* 0.6 KBTU	-409.5	409.5
					ZQ5203	INSTANT HEAT RJCT	45.6 KBTU	-409.5	409.5
‡‡ ZQ5211	TOT HT RJCT EVP 1	41.5 KBTU	-409.5	409.5	ZQ5212	TOT HT RJCT EVP 2	* 0.7 KBTU	-409.5	409
					ZQ5213	TOT HT RJCT	40.8 KBTU	-409.5	409.5
‡‡ ZW5221	TOT WATR FLW EV 1	45.1 LBS	-409.5	409.5	ZW5222	TOT WATR FLW EV 2	0.0 LBS	-409.5	409
					ZW5223	TOT WATR FLW	45.1 LBS	-409.5	409.5
					ZW5224	WATR TNK DIFF WT	* 26.7 LBS	-409.5	409.5
‡‡‡ ZE5231	SIG EVE TOT EVP 1	0.0 MIN	-409.5	409.5	* ZE5232	SIG EVE TOT EVP 2	0.0 MIN	-409.5	409
					* ZE5234	TOTAL TEST TIME	54.4 MIN	-409.5	409.5
ZQ5241	AVG HT LOAD EVP 1A	45.8 KBTU	-409.5	409.5	ZQ5242	AVG HT LOAD EVP 2A	* 0.0 KBTU	-409.5	409.5
					ZQ5243	AVG HT LOAD A	44.8 KBTU	-409.5	409.5
‡‡‡ ZQ5251	AVG HT LOAD EVP 1B	50.0 KBTU	-409.5	409.5	ZQ5252	AVG HT LOAD EVP 2B	0.0 KBTU	-409.5	40
					ZQ5253	AVG HT LOAD B	50.0 KBTU	-409.5	409.5
‡‡ ZF5261	AVG WATR USE EV 1	49.6 LBSM	-409.5	409.5	ZF5262	AVG WATR USE EV 2	0.0 LBSM	-409.5	409
					ZF5263	AVG WATR USE A	49.6 LBSM	-409.5	409.5
					ZF5264	AVG WATR USE B	* 29.7 LBSM	-409.5	409.5
ZH5271	AVG ENT CHNG EV 1	920 BTUP	-4095	4095	# ZH5272	AVG ENT CHNG EV 2	RRR BTUP	-4095	4095
					ZH5273	AVG ENTP CHNG A	90% BTUP	-4095	4095
					ZH5281	AVG ENTP CHNG B	* 152% BTUP	-4095	4095
‡‡ ZT5301	MIN F-21 OUT TEM 1	66.9 DEGF	-409.5	409.5	ZT5302	MIN F-21 OUT TEM 2	101.5 DEGF	-409	409
# ZT5311	MAX F-21 OUT TEM 1	RRR DEGF	-409.5	409.5	# ZT5312	MAX F-21 OUT TEM 2	RRR DEGF	-409.5	409.5
‡‡ ZQ5321	TP-OFF DT HTR PWR 1	0.0 WATT	-409.5	409.5	ZQ5351	TP-OFF DUCT 1 AVG	111.1 DEGF	-409.5	409
ZQ5322	TP-OF DT HTR PWR 2	0.0 WATT	-409.5	409.5	ZQ5352	TP-OFF DUCT 2 AVG	108.4 DEGF	-409.5	409.5
ZQ5323	TP-OF DT HTR PWR 3	0.0 WATT	-409.5	409.5	ZQ5353	TP-OFF DUCT 3 AVG	113.8 DEGF	-409.5	409.5
ZQ5324	TP-OF DT HTR PWR 4	0.0 WATT	-409.5	409.5	ZQ5354	TP-OFF DUCT 4 AVG	98.7 DEGF	-409.5	409.5
ZQ5331	R-ETY DT HTR PWR 1	30.2 WATT	-409.5	409.5	ZQ5355	R-ETRY DUCT 1 AVG	144.8 DEGF	-409.5	409.5
ZQ5332	R-ETY DT HTR PWR 2	0.0 WATT	-409.5	409.5	ZQ5356	R-ETRY DUCT 2 AVG	47.1 DEGF	-409.5	409.5
ZQ5333	R-ETY DT HTR PWR 3	9.9 WATT	-409.5	409.5	ZQ5359	R-ETRY DUCT 3 AVG	49.3 DEGF	-409.5	409.5
ZW5341	S S NOZ HTR PWR	19.4 WATT	-409.5	409.5	ZW5357	SS NOZZLE 1 AVG	149.7 DEGF	-409.5	409.5
ZW5342	S S NOZ HTR PWR	19.4 WATT	-409.5	409.5	ZW5358	SS NOZZLE 2 AVG	117.5 DEGF	-409.5	409.5
‡‡ TM5403	MSFC ASPS TEMP 1	72.5 DEGF	-409.5	409.5	TM5404	MSFC ASPS TEMP 2	67.0 DEGF	-409.5	409
* TF5501	P FLD CONT VLV IN	LLL DEGF	-409.5	409.5	* TF5506	S FLD CONT VLV IN	LLL DEGF	-409.5	409.5
* TF5528	P CON OUT MIX CH	UUU DEGF	-409.5	409.5	* TF5530	S CON OUT MIX CH	UUU DEGF	-409.5	409.5
* TF5529	P CON OUT MIX CH	UUU DEGF	-409.5	409.5	* TF5531	S CON OUT MIX CH	UUU DEGF	-409.5	409.5
‡‡ FM5403	HI FL TO PRI VALV	2751 PPH	-4095	4095	FM5649	HI FLOW TO SEC PNL	2750 PPH	-4095	40

-MID-	---DESCRIPTION----	---VALUE---	----LIMITS----		-MID-	---DESCRIPTION----	---VALUE---	----LIMITS----	
‡‡	TF5001 F-21 IN TO EVAP 1	148.8 DEGF	-409.5	409.5		TF5007 F-21 IN TO EVAP 2	99.7 DEGF	-409.5	409
	TF5002 F-21 IN TO EVAP 1	136.9 DEGF	-409.5	409.5		TF5008 F-21 IN TO EVAP 2	100.6 DEGF	-409.5	409.5
	TF5003 F-21 OUT OF EVAP 1	68.9 DEGF	-409.5	409.5		TF5009 F-21 OUT OF EVAP 2	101.6 DEGF	-409.5	409.5
	TF5004 F-21 OUT OF EVAP 1	69.9 DEGF	-409.5	409.5		TF5010 F-21 OUT OF EVAP 2	102.6 DEGF	-409.5	409.5
	TW5005 H20 IN TO EVAP 1	50.7 DEGF	-409.5	409.5		TW5011 H20 IN TO EVAP 2	51.7 DEGF	-409.5	409.5
	TW5006 H20 IN TO EVAP 1	50.7 DEGF	-409.5	409.5		TW5012 H20 IN TO EVAP 2	50.7 DEGF	-409.5	409.5
	TW5011 H20 IN TO EVAP 2	51.7 DEGF	-409.5	409.5		TD5017 EVAP EXH TOPOFF DT	97.8 DEGF	30.0	240.0
	TW5012 H20 IN TO EVAP 2	50.7 DEGF	-409.5	409.5		TD5018 EVAP EXH TOPOFF DT	63.7 DEGF	30.0	240.0
	TD5013 EVAP EXH TOPOFF DT	100.4 DEGF	30.0	240.0		TD5019 EVAP EXH TOPOFF DT	95.1 DEGF	30.0	240.0
	TD5014 EVAP EXH TOPOFF DT	101.8 DEGF	30.0	240.0		TD5020 EVAP EXH TOPOFF DT	143.5 DEGF	30.0	240.0
	TD5015 EVAP EXH TOPOFF DT	101.8 DEGF	30.0	240.0	#	TD5021 EVAP EXH TOPOFF DT	LLL DEGF	30.0	240.0
	TD5016 EVAP EXH TOPOFF DT	105.8 DEGF	30.0	240.0		TD5022 EVAP EXH TOPOFF DT	122.8 DEGF	30.0	240.0
‡‡‡	TD5023 EVAP RE-ENTRY DUCT	137.0 DEGF	30.0	240.0		TD5028 EVAP RE-ENTRY DUCT	166.0 DEGF	30.0	24
	TD5024 EVAP RE-ENTRY DUCT	156.0 DEGF	30.0	240.0		TD5029 EVAP RE-ENTRY DUCT	81.7 DEGF	30.0	240.0
	TD5025 EVAP RE-ENTRY DUCT	128.0 DEGF	30.0	240.0		TD5030 EVAP RE-ENTRY DUCT	41.1 DEGF	30.0	240.0
	TD5026 EVAP RE-ENTRY DUCT	95.1 DEGF	30.0	240.0		TD5031 EVAP RE-ENTRY DUCT	46.9 DEGF	30.0	240.0
	TD5027 EVAP RE-ENTRY DUCT	125.4 DEGF	30.0	240.0					
‡‡	TD5032 EVAP EXH RE-ENTRY	81.7 DEGF	30.0	240.0		TD5036 EVAP EXH RE-ENTRY	34.8 DEGF	30.0	240
	TD5033 EVAP EXH RE-ENTRY	56.8 DEGF	30.0	240.0		TD5037 EVAP EXH RE-ENTRY	97.8 DEGF	30.0	240.0
	TD5034 EVAP EXH RE-ENTRY	45.4 DEGF	30.0	240.0		TD5038 EVAP EXH RE-ENTRY	103.1 DEGF	30.0	240.0
	TD5035 EVAP EXH RE-ENTRY	46.9 DEGF	30.0	240.0		TD5039 EVAP EXH RE-ENTRY	103.1 DEGF	30.0	240.0
‡‡						PN5051 H20 TK GN2 PRESS	56.9 PSI	-409.5	409
	PF5052 F-21 DIF PRSS EV 1	14.2 PSID	-409.5	409.5		PF5053 F-21 DIF PRSS EV 2	10.6 PSID	-409.5	409.5
	PW5054 H20 SUP PRSS TO EV	44.9 PSIA	-409.5	409.5		PW5055 H20 SUP PRSS TO EV	49.6 PSIA	-409.5	409.5
	PE5056 EVAP 1 CHMBR PRSS	3.74 TORR	-40.95	40.95		PE5057 EVAP 2 CHMBR PRSS	3.19 TORR	-40.95	40.95
‡‡‡	PD5058 EXHT DUCT PRSS DP	LLL TORR	-40.95	40.95		PD5065 EXHT DUCT PRSS DP	0.05 TORR	-40.95	40.
	PD5059 EXHT DUCT PRSS DP	0.44 TORR	-40.95	40.95		PD5066 EXHT DUCT PRSS DP	0.01 TORR	-40.95	40.95
#	PD5060 EXHT DUCT PRSS DP	UUU TORR	-40.95	40.95		PD5067 EXHT DUCT PRSS DP	0.01 TORR	-40.95	40.95
	PD5061 EXHT DUCT PRSS	0.73 TORR	-40.95	40.95		PD5068 EXHT DUCT PRSS DP	0.01 TORR	-40.95	40.95
	PD5062 EXHT DUCT PRSS	3.43 TORR	-40.95	40.95		PD5069 EXHT DUCT PRSS DP	0.01 TORR	-40.95	40.95
	PD5063 EXHT DUCT PRSS	3.70 TORR	-40.95	40.95		PD5070 EXHT DUCT PRSS DP	0.77 TORR	-40.95	40.95
	PD5064 EXHT DUCT PRSS	0.001 TORR	-4.095	4.095		PD5071 EXHT DUCT PRSS DP	0.001 TORR	-4.095	4.095
‡‡						FW5081 TOT H20 FLO TO EVP	48.9 PPH	-409.5	409
	FW5082 H20 FLO TO FL EVAP	48.6 PPH	-409.5	409.5		FW5083 H20 FLO TO FL EVAP	0.0 PPH	-409.5	409.5
						WT5091 H20 TANK WEIGHT	93.1 LBS	-409.5	409.5
‡‡	HI5170 TOP OFF DUCT HTR 1	0.00 AMPS	-40.95	40.95		HI5172 TOP OFF DUCT HTR 3	0.01 AMPS	-40.95	40.
	HI5171 TOP OFF DUCT HTR 2	0.01 AMPS	-40.95	40.95		HI5173 TOP OFF DUCT HTR 4	0.02 AMPS	-40.95	40.95
‡‡	HI5174 R-ETY DT HTR PWR 1	1.37 AMPS	-40.95	40.95		HI5176 R-ETY DT HTR PWR 3	0.66 AMPS	-40.95	40.
	HI5175 R-ETY DT HTR PWR 2	3.53 AMPS	-40.95	40.95					
‡‡	HI5176 S S NOZZLE HTR	0.27 AMPS	-40.95	40.95		HI5177 S S NOZZLE HTR	0.27 AMPS	-40.95	40.
	FW5663 HI FL TO PRI VALV	2764 PPH	-4095	4095		FW5649 HI FLOW TO SEC PNL	2252 PPH	-4095	4095
						FW5660 F21 TOTAL FLOW	5.07 KPPH	-40.95	40.95

1.7.76

PAGE [illegible] CSD TP/EVAP SCOOP (DOMES) CHAMBER A DAY 121, 20 HRS, 10 MIN, 00 SEC

		DESCRIPTION	VALUE	LIMITS				DESCRIPTION	VALUE	LIMITS	
**	Z05201	INST HT REJCT EV 1	49.5 KBTU	-409.5	409.5		Z05202	INST HT REJCT EV 2	- 1.6 KBTU	-409.5	409
							Z05203	INSTANT HEAT REJCT	47.8 KBTU	-409.5	409.5
**	Z05211	TOT HT REJCT EVP 1	41.2 KBTU	-409.5	409.5		Z05212	TOT HT REJCT EVP 2	- 1.5 KBTU	-409.5	409
							Z05213	TOT HT REJCT	40.7 KBTU	-409.5	409.5
	ZW5221	TOT WATR FLW EV 1	40.3 LBS	-409.5	409.5		ZW5222	TOT WATR FLW EV 2	0.0 LBS	-409.5	409.5
							ZW5223	TOT WATR FLW	40.3 LBS	-409.5	409.5
						#	ZW5224	WATR TNK DIFF WT	RNR LBS	-409.5	409.5
**	ZE5231	SIG EVE TOT EVP 1	0.0 MIN	-409.5	409.5	*	ZE5232	SIG EVE TOT EVP 2	0.0 MIN	-409.5	409
						*	ZE5234	TOTAL TEST TIME	49.9 MIN	-409.5	409.5
**	Z05241	AVG HT LOAD EVP 1A	50.4 KBTU	-409.5	409.5		Z05242	AVG HT LOAD EVP 2A	- 0.5 KBTU	-409.5	409
							Z05243	AVG HT LOAD A	49.9 KBTU	-409.5	409.5
**	Z05251	AVG HT LOAD EVP 1B	50.0 KBTU	-409.5	409.5		Z05252	AVG HT LOAD EVP 2B	0.0 KBTU	-409.5	409
							Z05253	AVG HT LOAD B	50.0 KBTU	-409.5	409.5
**	ZF5261	AVG WATR USE EV 1	49.4 LBSH	-409.5	409.5		ZF5262	AVG WATR USE EV 2	0.0 LBSH	-409.5	409
							ZF5263	AVG WATR USE A	49.4 LBSH	-409.5	409.5
						#	ZF5264	AVG WATR USE B	RNR LBSH	-409.5	409.5
**	Z05271	AVG ENT CHNG EV 1	1022 BTUP	- 4095	4095	#	Z05272	AVG ENT CHNG EV 2	RNR BTUP	- 4095	40
							Z05273	AVG ENTP CHNG A	1010 BTUP	- 4095	4095
						#	Z05281	AVG ENTP CHNG B	RNR BTUP	- 4095	4095
**	ZT5301	MIN F-21 OUT TEM 1	62.9 DEGF	-409.5	409.5		ZT5302	MIN F-21 OUT TEM 2	101.5 DEGF	-409.5	409
#	ZT5311	MAX F-21 OUT TEM 1	RNR DEGF	-409.5	409.5	#	ZT5312	MAX F-21 OUT TEM 2	RNR DEGF	-409.5	409.5
**	Z05321	TP-OFF DT HTR PWR 1	0.0 WATT	-409.5	409.5		Z05351	TP-OFF DUCT 1 AVG	102.7 DEGF	-409.5	409
	Z05322	TP-OF DT HTR PWR 2	0.0 WATT	-409.5	409.5		Z05352	TP-OFF DUCT 2 AVG	100.0 DEGF	-409.5	409.5
	Z05323	TP-OF DT HTR PWR 3	0.0 WATT	-409.5	409.5		Z05353	TP-OFF DUCT 3 AVG	114.3 DEGF	-409.5	409.5
	Z05324	TP-OF DT HTR PWR 4	0.0 WATT	-409.5	409.5		Z05354	TP-OFF DUCT 4 AVG	99.4 DEGF	-409.5	409.5
	Z05331	R-ETY DT HTR PWR 1	29.6 WATT	-409.5	409.5		Z05355	R-ETHY DUCT 1 AVG	100.7 DEGF	-409.5	409.5
	Z05332	R-ETY DT HTR PWR 2	184.0 WATT	-409.5	409.5		Z05356	R-ETHY DUCT 2 AVG	55.1 DEGF	-409.5	409.5
	Z05333	R-ETY DT HTR PWR 3	9.9 WATT	-409.5	409.5		Z05359	R-ETHY DUCT 3 AVG	49.7 DEGF	-409.5	409.5
	ZW5341	S S NOZ HTR PWR	19.4 WATT	-409.5	409.5		ZW5357	SS NOZZLE 1 AVG	146.5 D SF	-409.5	409.5
	ZW5342	S S NOZ HTR PWR	19.4 WATT	-409.5	409.5		ZW5358	SS NOZZLE 2 AVG	112.2 DEGF	-409.5	409.5
**	TM5403	MSFC ASPS TEMP 1	76.0 DEGF	-409.5	409.5		TM5404	MSFC ASPS TEMP 2	76.2 DEGF	-409.5	409
*	TF5501	P FLO CONT VLV IN	LLL DEGF	-409.5	409.5	*	TF5506	S FLO CONT VLV IN	64.0 DEGF	-409.5	409.5
*	TF5505	P CON OUT MIX CH	UUU DEGF	-409.5	409.5	*	TF5530	S CON OUT MIX CH	UUU DEGF	-409.5	409.5
*	TF5525	P CON OUT MIX CH	UUU DEGF	-409.5	409.5	*	TF5531	S CON OUT MIX CH	UUU DEGF	-409.5	409.5
**	FM5643	HI FL TO PDI VALV	2764 PPH	- 4095	4095		FM5649	HI FLOW TO SEC PNL	2252 PPH	- 4095	40

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7.1.47

	DESCRIPTION	VALUE	LIMITS			DESCRIPTION	VALUE	LIMITS	
‡‡	T*5001 F-21 IN TO EVAP 1	154.7 DEGF	-409.5	409.5		T*5007 F-21 IN TO EVAP 2	150.4 DEGF	-409.5	409
	T*5002 F-21 IN TO EVAP 1	154.9 DEGF	-409.5	409.5		T*5008 F-21 IN TO EVAP 2	140.4 DEGF	-409.5	409.5
	T*5003 F-21 OUT OF EVAP 1	79.8 DEGF	-409.5	409.5		T*5009 F-21 OUT OF EVAP 2	79.3 DEGF	-409.5	409.5
	T*5004 F-21 OUT OF EVAP 1	81.7 DEGF	-409.5	409.5		T*5010 F-21 OUT OF EVAP 2	76.4 DEGF	-409.5	409.5
	T*5005 H2O IN TO EVAP 1	51.7 DEGF	-409.5	409.5		T*5011 H2O IN TO EVAP 2	52.8 DEGF	-409.5	409.5
	T*5006 H2O IN TO EVAP 1	50.7 DEGF	-409.5	409.5		T*5012 H2O IN TO EVAP 2	51.7 DEGF	-409.5	409.5
‡‡	T*5011 H2O IN TO EVAP 2	52.8 DEGF	-409.5	409.5		T05017 EVAP EXH TOPOFF DT	129.3 DEGF	30.0	240
	T*5012 H2O IN TO EVAP 2	51.7 DEGF	-409.5	409.5		T05018 EVAP EXH TOPOFF DT	55.4 DEGF	30.0	240.0
	T05013 EVAP EXH TOPOFF DT	83.0 DEGF	30.0	240.0		T05019 EVAP EXH TOPOFF DT	80.9 DEGF	30.0	240.0
	T05014 EVAP EXH TOPOFF DT	86.4 DEGF	30.0	240.0		T05020 EVAP EXH TOPOFF DT	140.0 DEGF	30.0	240.0
	T05015 EVAP EXH TOPOFF DT	84.0 DEGF	30.0	240.0	#	T05021 EVAP EXH TOPOFF DT	LLL DEGF	30.0	240.0
	T05016 EVAP EXH TOPOFF DT	128.7 DEGF	30.0	240.0		T05022 EVAP EXH TOPOFF DT	113.8 DEGF	30.0	240.0
	T05023 EVAP RE-ENTRY DUCT	133.2 DEGF	30.0	240.0		T05028 EVAP RE-ENTRY DUCT	78.9 DEGF	30.0	240.0
	T05024 EVAP RE-ENTRY DUCT	151.0 DEGF	30.0	240.0		T05029 EVAP RE-ENTRY DUCT	95.1 DEGF	30.0	240.0
	T05025 EVAP RE-ENTRY DUCT	114.0 DEGF	30.0	240.0		T05030 EVAP RE-ENTRY DUCT	91.1 DEGF	30.0	240.0
	T05026 EVAP RE-ENTRY DUCT	85.7 DEGF	30.0	240.0		T05031 EVAP RE-ENTRY DUCT	72.0 DEGF	30.0	240.0
	T05027 EVAP RE-ENTRY DUCT	92.6 DEGF	30.0	240.0					
‡‡	T05032 EVAP EXH RE-ENTRY	44.0 DEGF	30.0	240.0		T05036 EVAP EXH RE-ENTRY	67.8 DEGF	30.0	240
	T05033 EVAP EXH RE-ENTRY	35.4 DEGF	30.0	240.0		T05037 EVAP EXH RE-ENTRY	80.3 DEGF	30.0	240.0
	T05034 EVAP EXH RE-ENTRY	58.1 DEGF	30.0	240.0		T05038 EVAP EXH RE-ENTRY	84.4 DEGF	30.0	240.0
	T05035 EVAP EXH RE-ENTRY	59.5 DEGF	30.0	240.0		T05039 EVAP EXH RE-ENTRY	84.4 DEGF	30.0	240.0
‡‡						PM5051 H2O TK GN2 PRESS	73.5 PSI	-409.5	409
	PF5052 F-21 DIF PRSS FV 1	12.1 PSID	-409.5	409.5		PF5053 F-21 DIF PRSS FV 2	12.0 PSID	-409.5	409.5
#	PM5054 H2O SUP PRSS TO EV	48.8 PSIA	-409.5	409.5	#	PM5055 H2O SUP PRSS TO EV	UUU PSIA	-409.5	409.5
	PE5056 EVAP 1 CHMBR PRSS	6.20 TORR	-40.95	40.95		PE5057 EVAP 2 CHMBR PRSS	6.20 TORR	-40.95	40.95
‡‡	PD5058 EXMT DUCT PRSS DP	0.19 TORR	-40.95	40.95		PD5065 EXMT DUCT PRSS DP	0.52 TORR	-40.95	40.
	PD5063 EXMT DUCT PRSS DP	0.24 TORR	-40.95	40.95		PD5066 EXMT DUCT PRSS DP	0.01 TORR	-40.95	40.95
#	PD5040 EXMT DUCT PRSS DP	UUU TORR	-40.95	40.95		PD5067 EXMT DUCT PRSS DP	0.01 TORR	-40.95	40.95
	PD5041 EXMT DUCT PRSS	1.00 TORR	-40.95	40.95		PD5068 EXMT DUCT PRSS DP	0.01 TORR	-40.95	40.95
	PD5042 EXMT DUCT PRSS	6.52 TORR	-40.95	40.95		PD5069 EXMT DUCT PRSS DP	0.01 TORR	-40.95	40.95
	PD5043 EXMT DUCT PRSS	6.17 TORR	-40.95	40.95	#	PD5070 EXMT DUCT PRSS DP	UUU TORR	-40.95	40.95
	PD5044 EXMT DUCT PRSS	0.001 TORR	-40.095	40.095		PD5071 EXMT DUCT PRSS DP	0.001 TORR	-40.095	40.095
‡‡						FW5081 TOT H2O FLO TO EVP	100.0 PPH	-409.5	40
	FW5082 H2O FLO TO FL EVAP	50.2 PPH	-409.5	409.5		FW5083 H2O FLO TO FL EVAP	49.0 PPH	-409.5	409.5
						WI5091 H2O TANK WEIGHT	71.1 LBS	-409.5	5
‡‡	HI5170 TOP OFF DUCT HTR 1	- 0.01 AMPS	-40.95	40.95		HI5172 TOP OFF DUCT HTR 3	0.01 AMPS	-40.95	40.
	HI5171 TOP OFF DUCT HTR 2	0.00 AMPS	-40.95	40.95		HI5173 TOP OFF DUCT HTR 4	- 0.02 AMPS	-40.95	40.95
‡‡	HI5174 R-ETY DT HTR PWR 1	3.19 AMPS	-40.95	40.95		HI5176 R-ETY DT HTR PWR 3	0.67 AMPS	-40.95	40.
	HI5175 R-ETY DT HTR PWR 2	3.18 AMPS	-40.95	40.95					
‡‡	HI5178 S S NOZZLE HTR	0.28 AMPS	-40.95	40.9		HI5177 S S NOZZLE HTR	0.27 AMPS	-40.95	40.
‡	FW5663 HI FL TO PRI VALV	2501 PPH	- 4095	4095		FW5649 HI FLOW TO SEC PNL	2489 PPH	- 4095	409
						FW5660 F21 TOTAL FLOW	5.01 KPPH	-40.95	40.95

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PARA-[illegible] CSD IR/EVAP SCOOP (DOOR) CHAMBER A [illegible] V 121, 21 HRS, 45 MIN, 00 SEC

	MEAS	DESCRIPTION	VALUE	LIMITS		MEAS	DESCRIPTION	VALUE	LIMITS
	ZH5201	INST HT RJCT EV 1	52.1 KBTU	-409.5	409.5	ZH5202	INST HT RJCT EV 2	54.8 KBTU	-409.5 409
						ZH5203	INSTANT HEAT RJCT	107.0 KBTU	-409.5 409.5
	ZH5211	TOT HT RJCT EVP 1	33.5 KBTU	-409.5	409.5	ZH5212	TOT HT RJCT EVP 2	34.7 KBTU	-409.5 409
						ZH5213	TOT HT RJCT	68.2 KBTU	-409.5 409.5
	ZH5221	TOT WATR FLW EV 1	32.0 LBS	-409.5	409.5	ZH5222	TOT WATR FLW EV 2	32.1 LBS	-409.5 409
						ZH5223	TOT WATR FLW	64.1 LBS	-409.5 409.5
						ZH5224	WATR TNK DIFF WT.	62.3 LBS	-409.5 409.5
	ZF5231	SIG EVE TOT EVP 1	38.5 MIN	-409.5	409.5	ZF5232	SIG EVE TOT EVP 2	38.5 MIN	-409.5 409
						ZF5234	TOTAL TEST TIME	38.5 MIN	-409.5 409.5
	ZH5241	AVG HT LOAD EVP 1A	52.2 KBTU	-409.5	409.5	ZH5242	AVG HT LOAD EVP 2A	54.2 KBTU	-409.5 40
						ZH5243	AVG HT LOAD A	106.4 KBTU	-409.5 409.5
	ZH5251	AVG HT LOAD EVP 1B	50.0 KBTU	-409.5	409.5	ZH5252	AVG HT LOAD EVP 2B	50.0 KBTU	-409.5 409
						ZH5253	AVG HT LOAD B	100.0 KBTU	-409.5 409.5
	ZF5261	AVG WATR USE EV 1	49.9 LBSH	-409.5	409.5	ZF5262	AVG WATR USE EV 2	50.1 LBSH	-409.5 409.5
						ZF5263	AVG WATR USE A	100.0 LBSH	-409.5 409.5
						ZF5264	AVG WATR USE B	97.2 LBSH	-409.5 409.5
	ZH5271	AVG ENT CHNG EV 1	1045 BTUP	- 4095	4095	ZH5272	AVG ENT CHNG EV 2	1042 BTUP	- 4095 40
						ZH5273	AVG ENTP CHNG A	1044 BTUP	- 4095 4095
						ZH5281	AVG ENTP CHNG B	1045 BTUP	- 4095 4095
	ZT5301	MIN F-21 OUT TEM 1	75.9 DEGF	-409.5	409.5	ZT5302	MIN F-21 OUT TEM 2	74.9 DEGF	-409.5 409
#	ZT5311	MAX F-21 OUT TEM 1	RRR DEGF	-409.5	409.5	# ZT5312	MAX F-21 OUT TEM 2	RRR DEGF	-409.5 409.5
	ZH5321	TP-OF DT HTR PWR 1	0.0 WATT	-409.5	409.5	ZH5351	TP-OFF DUCT 1 AVG	RA.A DEGF	-409.5 409
	ZH5322	TP-OF DT HTR PWR 2	0.0 WATT	-409.5	409.5	ZH5352	TP-OFF DUCT 2 AVG	82.1 DEGF	-409.5 409.5
	ZH5323	TP-OF DT HTR PWR 3	0.0 WATT	-409.5	409.5	ZH5353	TP-OFF DUCT 3 AVG	120.3 DEGF	-409.5 409.5
	ZH5324	TP-OF DT HTR PWR 4	0.0 WATT	-409.5	409.5	ZH5354	TP-OFF DUCT 4 AVG	109.4 DEGF	-409.5 409.5
	ZH5331	R-ETY DT HTR PWR 1	151.6 WATT	-409.5	409.5	ZH5355	R-ETRY DUCT 1 AVG	79.1 DEGF	-409.5 409.5
	ZH5332	R-ETY DT HTR PWR 2	151.4 WATT	-409.5	409.5	ZH5356	R-ETRY DUCT 2 AVG	61.9 DEGF	-409.5 409.5
	ZH5333	R-ETY DT HTR PWR 3	10.2 WATT	-409.5	409.5	ZH5359	R-ETRY DUCT 3 AVG	51.0 DEGF	-409.5 409.5
	ZH5341	S S NOZ HTR PWR	22.2 WATT	-409.5	409.5	ZH5357	SS NOZZLE 1 AVG	142.1 DEGF	-409.5 409.5
	ZH5342	S S NOZ HTR PWR	22.2 WATT	-409.5	409.5	ZH5358	SS NOZZLE 2 AVG	103.0 DEGF	-409.5 409.5
	TM5403	MSFC ASPS TEMP 1	68.4 DEGF	-409.5	409.5	TM5404	MSFC ASPS TEMP 2	72.9 DEGF	-409.5 409
*	TF5501	P FLO CONT VLV IN	LLL DEGF	-409.5	409.5	* TF5504	S FLO CONT VLV IN	47.A DEGF	-409.5 409.5
*	TF5528	P CON OUT MIX CH	UUU DEGF	-409.5	409.5	* TF5530	S CON OUT MIX CH	UUU DEGF	-409.5 409.5
*	TF5529	P CON OUT MIX CH	UUU DEGF	-409.5	409.5	* TF5531	S CON OUT MIX CH	UUU DEGF	-409.5 409.5
	FM5643	HI FL TO PRI VALV	2501 PPH	- 4095	4095	FM5644	HI FLOW TO SEC PNL	2496 PPH	- 4095 40

	-MID-	---DESCRIPTION----	---VALUE---	----LIMITS----
	TF5001	F-21 IN TO EVAP 1	153.4 DEGF	-409.5 409.5
	TF5002	F-21 IN TO EVAP 1	151.8 DEGF	-409.5 409.5
	TF5003	F-21 OUT OF EVAP 1	74.9 DEGF	-409.5 409.5
	TF5004	F-21 OUT OF EVAP 1	74.9 DEGF	-409.5 409.5
	TW5005	H2O IN TO EVAP 1	50.7 DEGF	-409.5 409.5
	TW5006	H2O IN TO EVAP 1	50.7 DEGF	-409.5 409.5
	TW5011	H2O IN TO EVAP 2	52.8 DEGF	-409.5 409.5
	TW5012	H2O IN TO EVAP 2	51.7 DEGF	-409.5 409.5
	TD5013	EVAP EXH TOPOFF DT	70.6 DEGF	30.0 240.0
	TD5014	EVAP EXH TOPOFF DT	93.7 DEGF	30.0 240.0
	TD5015	EVAP EXH TOPOFF DT	73.4 DEGF	30.0 240.0
	TD5016	EVAP EXH TOPOFF DT	120.3 DEGF	30.0 240.0
	TD5023	EVAP RE-ENTRY DUCT	128.0 DEGF	30.0 240.0
	TD5024	EVAP RE-ENTRY DUCT	146.0 DEGF	30.0 240.0
	TD5025	EVAP RE-ENTRY DUCT	121.5 DEGF	30.0 240.0
	TD5026	EVAP RE-ENTRY DUCT	85.7 DEGF	30.0 240.0
	TD5027	EVAP RE-ENTRY DUCT	58.1 DEGF	30.0 240.0
	TD5032	EVAP EXH RE-ENTRY	41.1 DEGF	30.0 240.0
	TD5033	EVAP EXH RE-ENTRY	38.2 DEGF	30.0 240.0
	TD5034	EVAP EXH RE-ENTRY	56.8 DEGF	30.0 240.0
	TD5035	EVAP EXH RE-ENTRY	58.1 DEGF	30.0 240.0
	PF5052	F-21 DIF PRSS EV 1	12.3 PSID	-409.5 409.5
	PW5054	H2O SUP PRSS TO EV	49.6 PSIA	-409.5 409.5
	PF5056	EVAP 1 CHMBR PRSS	6.20 TORR	-40.95 40.95
	PD5058	EXHT DUCT PRSS DP	0.22 TORR	-40.95 40.95
	PD5059	EXHT DUCT PRSS DP	0.23 TORR	-40.95 40.95
	PD5060	EXHT DUCT PRSS DP	UUU TORR	-40.95 40.95
	PD5061	EXHT DUCT PRSS	1.00 TORR	-40.95 40.95
	PD5062	EXHT DUCT PRSS	6.56 TORR	-40.95 40.95
	PD5063	EXHT DUCT PRSS	6.17 TORR	-40.95 40.95
	PD5064	EXHT DUCT PRSS	0.001 TORR	-4.095 4.095
	FW5082	H2O FLO TO FL EVAP	49.6 PPH	-409.5 409.5
	HI5170	TOP OFF DUCT HTR 1	0.00 AMPS	-40.95 40.95
	HI5171	TOP OFF DUCT HTR 2	0.00 AMPS	-40.95 40.95
	HI5174	R-ETY DT HTR PWR 1	3.19 AMPS	-40.95 40.95
	HI5175	R-ETY DT HTR PWR 2	3.18 AMPS	-40.95 40.95
	HI5176	S S NOZZLE HTR	0.25 AMPS	-40.95 40.95
	FW5643	HI FL TO PRI VALV	2501 PPH	- 4095 4095
	TF5007	F-21 IN TO EVAP 2	153.4 DEGF	-409.5 409
	TF5008	F-21 IN TO EVAP 2	154.3 DEGF	-409.5 409.5
	TF5009	F-21 OUT OF EVAP 2	71.9 DEGF	-409.5 409.5
	TF5010	F-21 OUT OF EVAP 2	70.9 DEGF	-409.5 409.5
	TW5011	H2O IN TO EVAP 2	52.8 DEGF	-409.5 409.5
	TW5012	H2O IN TO EVAP 2	51.7 DEGF	-409.5 409.5
	TD5017	EVAP EXH TOPOFF DT	116.1 DEGF	30.0 240
	TD5018	EVAP EXH TOPOFF DT	52.4 DEGF	30.0 240.0
	TD5019	EVAP EXH TOPOFF DT	73.4 DEGF	30.0 240.0
	TD5020	EVAP EXH TOPOFF DT	135.8 DEGF	30.0 240.0
	TD5021	EVAP EXH TOPOFF DT	LLL DEGF	30.0 240.0
	TD5022	EVAP EXH TOPOFF DT	107.1 DEGF	30.0 240.0
	TD5028	EVAP RE-ENTRY DUCT	69.7 DEGF	30.0 240
	TD5029	EVAP RE-ENTRY DUCT	89.7 DEGF	30.0 240.0
	TD5030	EVAP RE-ENTRY DUCT	89.7 DEGF	30.0 240.0
	TD5031	EVAP RE-ENTRY DUCT	67.8 DEGF	30.0 240.0
	TD5036	EVAP EXH RE-ENTRY	59.5 DEGF	30.0 240
	TD5037	EVAP EXH RE-ENTRY	70.4 DEGF	30.0 240.0
	TD5038	EVAP EXH RE-ENTRY	76.2 DEGF	30.0 240.0
	TD5039	EVAP EXH RE-ENTRY	74.8 DEGF	30.0 240.0
	PN5051	H2O TK GN2 PRESS	79.9 PSI	-409.5 409
	PF5053	F-21 DIF PRSS EV 2	13.0 PSID	-409.5 409.5
	PW5055	H2O SUP PRSS TO EV	UUU PSIA	-409.5 409.5
	PE5057	EVAP 2 CHMBR PRSS	6.28 TORR	-40.95 40.95
	PD5065	EXHT DUCT PRSS DP	0.66 TORR	-40.95 40
	PD5066	EXHT DUCT PRSS DP	0.01 TORR	-40.95 40.95
	PD5067	EXHT DUCT PRSS DP	0.01 TORR	-40.95 40.95
	PD5068	EXHT DUCT PRSS DP	0.01 TORR	-40.95 40.95
	PD5069	EXHT DUCT PRSS DP	0.01 TORR	-40.95 40.95
	PD5070	EXHT DUCT PRSS DP	UUU TORR	-40.95 40.95
	PD5071	EXHT DUCT PRSS DP	0.001 TORR	-4.095 4.095
	FW5081	TOT H2O FLO TO EVP	100.0 PPH	-409.5 409
	FW5083	H2O FLO TO FL EVAP	50.4 PPH	-409.5 409.5
	WT5091	H2O TANK WEIGHT	114.4 LBS	-409.5 409.5
	HI5172	TOP OFF DUCT HTR 3	0.01 AMPS	-40.95 40.
	HI5173	TOP OFF DUCT HTR 4	0.02 AMPS	-40.95 40.95
	HI5177	R-ETY DT HTR PWR 3	0.66 AMPS	-40.95 40.
	HI5177	S S NOZZLE HTR	0.28 AMPS	-40.95 40.
	FW5649	HI FLOW TO SEC PNL	2411 PPH	- 4095 40
	FW5660	F21 TOTAL FLOW	9.01 KPPH	-40.95 40.95

-MID-	---DESCRIPTION----	---VALUE---	----LIMITS----	-MID-	---DESCRIPTION----	---VALUE---	----LIMITS----
‡‡	Z05201 INST HT RJCT EV 1	52.1 KBTU	-409.5 409.5		Z05202 INST HT RJCT EV 2	53.9 KBTU	-409.5 409
					Z05203 INSTANT HEAT RJCT	106.0 KBTU	-409.5 409.5
‡‡	Z05211 TOT HT RJCT EVP 1	9.7 KBTU	-409.5 409.5		Z05212 TOT HT RJCT EVP 2	10.0 KBTU	-409.5 409
					Z05213 TOT HT RJCT	19.7 KBTU	-409.5 409.5
‡‡	Z05221 TOT WATR FLW EV 1	9.3 LBS	-409.5 409.5		Z05222 TOT WATR FLW EV 2	9.4 LBS	-409.5 409
					Z05223 TOT WATR FLW	18.7 LBS	-409.5 409.5
					Z05224 WATR TNK DIFF WT.	18.4 LBS	-409.5 409.5
‡‡*	ZE5231 SIG EVE TOT EVP 1	11.2 MIN	-409.5 409.5	*	ZE5232 SIG EVE TOT EVP 2	11.2 MIN	-409.5 409
				*	ZE5234 TOTAL TEST TIME	11.2 MIN	-409.5 409.5
‡‡	Z05241 AVG HT LOAD EVP 1A	52.1 KBTU	-409.5 409.5		Z05242 AVG HT LOAD EVP 2A	53.9 KBTU	-409.5 409
					Z05243 AVG HT LOAD A	105.9 KBTU	-409.5 409.5
‡‡	Z05251 AVG HT LOAD EVP 1B	50.0 KBTU	-409.5 409.5		Z05252 AVG HT LOAD EVP 2B	50.0 KBTU	-409.5 409
					Z05253 AVG HT LOAD B	100.0 KBTU	-409.5 409.5
‡‡	ZF5261 AVG WATR USE EV 1	50.1 LBSH	-409.5 409.5		ZF5262 AVG WATR USE EV 2	50.5 LBSH	-409.5 409
					ZF5263 AVG WATR USE A	100.6 LBSH	-409.5 409.5
					ZF5264 AVG WATR USE B	98.8 LBSH	-409.5 409.5
‡‡	ZH5271 AVG ENT CHNG EV 1	1039 BTUP	- 4095 4095		ZH5272 AVG ENT CHNG EV 2	1067 BTUP	- 4095 40
					ZH5273 AVG ENTP CHNG A	1053 BTUP	- 4095 4095
					ZH5281 AVG ENTP CHNG B	1072 BTUP	- 4095 4095
‡‡	ZT5301 MIN F-21 OUT TEM 1	71.9 DEGF	-409.5 409.5		ZT5302 MIN F-21 OUT TEM 2	70.9 DEGF	-409.5 409
#	ZT5311 MAX F-21 OUT TEM 1	RRR DEGF	-409.5 409.5	#	ZT5312 MAX F-21 OUT TEM 2	RRR DEGF	-409.5 409.5
‡‡	Z05321 TP-OF DT HTR PWR 1	0.0 WATT	-409.5 409.5		Z05351 TP-OFF DUCT 1 AVG	71.6 DEGF	-409.5 409
	Z05322 TP-OF DT HTR PWR 2	0.0 WATT	-409.5 409.5		Z05352 TP-OFF DUCT 2 AVG	71.5 DEGF	-409.5 409.5
	Z05323 TP-OF DT HTR PWR 3	0.0 WATT	-409.5 409.5		Z05353 TP-OFF DUCT 3 AVG	114.4 DEGF	-409.5 409.5
	Z05324 TP-OF DT HTR PWR 4	0.0 WATT	-409.5 409.5		Z05354 TP-OFF DUCT 4 AVG	102.9 DEGF	-409.5 409.5
	Z05331 R-ETY DT HTR PWR 1	148.8 WATT	-409.5 409.5		Z05355 R-ETNY DUCT 1 AVG	75.7 DEGF	-409.5 409.5
	Z05332 R-ETY DT HTR PWR 2	149.8 WATT	-409.5 409.5		Z05356 R-ETNY DUCT 2 AVG	56.1 DEGF	-409.5 409.5
	Z05333 R-ETY DT HTR PWR 3	9.9 WATT	-409.5 409.5		Z05359 R-ETRY DUCT 3 AVG	51.0 DEGF	-409.5 409.5
	ZN5341 S S NOZ HTR PWR	19.4 WATT	-409.5 409.5		ZN5357 SS NOZZLE 1 AVG	137.7 DEGF	-409.5 409.5
	ZN5342 S S NOZ HTR PWR	22.2 WATT	-409.5 409.5		ZN5358 SS NOZZLE 2 AVG	103.6 DEGF	-409.5 409.5
‡‡	TM5403 MSFC ASPS TEMP 1	62.9 DEGF	-409.5 409.5		TM5404 MSFC ASPS TEMP 2	64.2 DEGF	-409.5 409
*	TF5501 P FLO CONT VLV IN	LLL DEGF	-409.5 409.5	*	TF5506 S FLO CONT VLV IN	LLL DEGF	-409.5 409.5
*	TF5529 P CON OUT MIX CH	UUU DEGF	-409.5 409.5	*	TF5530 S CON OUT MIX CH	UUU DEGF	-409.5 409.5
*	TF5559 P CON OUT MIX CH	UUU DEGF	-409.5 409.5	*	TF5531 S CON OUT MIX CH	UUU DEGF	-409.5 409.5
‡‡	FM5643 HI FL TO PRI VALV	2501 PPH	- 4095 4095		FM5649 HI FLOW TO SEC PNL	2511 PPH	- 4095 40

PAGE 31 CSD 13/EVAP SCOOP (OOAR) CHAMBER A AT 122: 10 HRS. 00 MIN. 01 SEC

	DESCRIPTION	VALUE	LIMITS		DESCRIPTION	VALUE	LIMITS
!!	TF5001 F-21 IN TO EVAP 1	147.2 DEGF	-409.5 409.5		TF5007 F-21 IN TO EVAP 2	148.1 DEGF	-409.5 409
	TF5002 F-21 IN TO EVAP 1	146.3 DEGF	-409.5 409.5		TF5008 F-21 IN TO EVAP 2	148.1 DEGF	-409.5 409.5
	TF5003 F-21 OUT OF EVAP 1	66.4 DEGF	-409.5 409.5		TF5009 F-21 OUT OF EVAP 2	66.3 DEGF	-409.5 409.5
	TF5004 F-21 OUT OF EVAP 1	63.9 DEGF	-409.5 409.5		TF5010 F-21 OUT OF EVAP 2	64.9 DEGF	-409.5 409.5
	TW5005 H2O IN TO EVAP 1	50.7 DEGF	-409.5 409.5		TW5011 H2O IN TO EVAP 2	52.8 DEGF	-409.5 409.5
	TW5006 H2O IN TO EVAP 1	50.7 DEGF	-409.5 409.5		TW5012 H2O IN TO EVAP 2	51.7 DEGF	-409.5 409.5
!!	TW5011 H2O IN TO EVAP 2	52.8 DEGF	-409.5 409.5		TD5017 EVAP EXH TOPOFF DT	109.8 DEGF	30.0 240
	TW5012 H2O IN TO EVAP 2	51.7 DEGF	-409.5 409.5		TD5018 EVAP EXH TOPOFF DT	48.9 DEGF	30.0 240.0
	TD5013 EVAP EXH TOPOFF DT	52.6 DEGF	30.0 240.0		TD5019 EVAP EXH TOPOFF DT	63.7 DEGF	30.0 240.0
	TD5014 EVAP EXH TOPOFF DT	51.2 DEGF	30.0 240.0		TD5020 EVAP EXH TOPOFF DT	133.2 DEGF	30.0 240.0
	TD5015 EVAP EXH TOPOFF DT	62.3 DEGF	30.0 240.0	#	TD5021 EVAP EXH TOPOFF DT	LLL DEGF	30.0 240.0
	TD5016 EVAP EXH TOPOFF DT	109.8 DEGF	30.0 240.0		TD5022 EVAP EXH TOPOFF DT	100.4 DEGF	30.0 240.0
!!	TD5023 EVAP RE-ENTRY DUCT	125.4 DEGF	30.0 240.0		TD5028 EVAP RE-ENTRY DUCT	79.0 DEGF	30.0 240
	TD5024 EVAP RE-ENTRY DUCT	143.5 DEGF	30.0 240.0		TD5029 EVAP RE-ENTRY DUCT	85.7 DEGF	30.0 240.0
	TD5025 EVAP RE-ENTRY DUCT	112.5 DEGF	30.0 240.0		TD5030 EVAP RE-ENTRY DUCT	81.7 DEGF	30.0 240.0
	TD5026 EVAP RE-ENTRY DUCT	77.5 DEGF	30.0 240.0		TD5031 EVAP RE-ENTRY DUCT	69.2 DEGF	30.0 240.0
	TD5027 EVAP RE-ENTRY DUCT	54.0 DEGF	30.0 240.0				
!!	TD5032 EVAP EXH RE-ENTRY	46.9 DEGF	30.0 240.0		TD5034 EVAP EXH RE-ENTRY	76.2 DEGF	30.0 240
	TD5033 EVAP EXH RE-ENTRY	52.6 DEGF	30.0 240.0		TD5037 EVAP EXH RE-ENTRY	58.1 DEGF	30.0 240.0
	TD5036 EVAP EXH RE-ENTRY	77.5 DEGF	30.0 240.0		TD5038 EVAP EXH RE-ENTRY	65.1 DEGF	30.0 240.0
	TD5035 EVAP EXH RE-ENTRY	78.9 DEGF	30.0 240.0		TD5039 EVAP EXH RE-ENTRY	63.7 DEGF	30.0 240.0
!!					PW5051 H2O TK GNP PRESS	76.1 PSI	-409.5 409
	PF5052 F-21 DIF PRSS EV 1	12.3 PSID	-409.5 409.5		PF5053 F-21 DIF PRSS EV 2	12.4 PSID	-409.5 409.5
#	PW5054 H2O SUP PRSS TO EV	UUU PSIA	-409.5 409.5	#	PW5055 H2O SUP PRSS TO EV	UUU PSIA	-409.5 409.5
	PF5056 EVAP 1 CHMBR PRSS	6.24 TORR	-40.95 40.95		PF5057 EVAP 2 CHMBR PRSS	6.32 TORR	-40.95 40.95
!!	PD5058 EXHT DUCT PRSS DP	0.20 TORR	-40.95 40.95		PD5065 EXHT DUCT PRSS DP	0.52 TORR	-40.95 40.
	PD5059 EXHT DUCT PRSS DP	0.22 TORR	-40.95 40.95		PD5066 EXHT DUCT PRSS DP	0.01 TORR	-40.95 40.95
#	PD5060 EXHT DUCT PRSS DP	UUU TORR	-40.95 40.95		PD5067 EXHT DUCT PRSS DP	0.01 TORR	-40.95 40.95
	PD5061 EXHT DUCT PRSS	1.08 TORR	-40.95 40.95		PD5068 EXHT DUCT PRSS DP	0.01 TORR	-40.95 40.95
	PD5062 EXHT DUCT PRSS	6.40 TORR	-40.95 40.95		PD5069 EXHT DUCT PRSS DP	0.01 TORR	-40.95 40.95
	PD5063 EXHT DUCT PRSS	6.20 TORR	-40.95 40.95	#	PD5070 EXHT DUCT PRSS DP	UUU TORR	-40.95 40.95
	PD5064 EXHT DUCT PRSS	0.001 TORR	-4.095 4.095		PD5071 EXHT DUCT PRSS DP	0.001 TORR	-4.095 4.095
!!					FW5081 TOT H2O FLO TO EVP	98.4 PPH	-409.5 409
	FW5082 H2O FLO TO FL EVAP	49.2 PPH	-409.5 409.5		FW5083 H2O FLO TO FL EVAP	49.0 PPH	-409.5 409.5
					WT5091 H2O TANK WEIGHT	66.8 LBS	-409.5 509.5
!!	HI5170 TOP OFF DUCT HTR 1	= 0.01 AMPS	-40.95 40.95		HI5172 TOP OFF DUCT HTR 3	= 0.01 AMPS	-40.95 40.
	HI5171 TOP OFF DUCT HTR 2	0.00 AMPS	-40.95 40.95		HI5173 TOP OFF DUCT HTR 4	= 0.02 AMPS	-40.95 40.95
!!	HI5176 R-ETY DT HTR PWR 1	3.07 AMPS	-40.95 40.95		HI5178 R-ETY DT HTR PWR 3	1.84 AMPS	-40.95 40.
	HI5175 R-ETY DT HTR PWR 2	3.45 AMPS	-40.95 40.95				
!!	HI5176 S S NOZZLE HTR	0.26 AMPS	-40.95 40.95		HI5177 S S NOZZLE HTR	0.24 AMPS	-40.95 40.
	FW5043 HI FL TO PRI VALV	2501 PPH	= 4095 4095		FW5649 HI FLOW TO SEC PNL	2498 PPH	= 4095 4095
					FW5680 F21 TOTAL FLOW	5.04 KPPH	-40.95 40.95

PAGE 00 CSD IR/EVAP SCOOP (0008) CHAMBER A DAY 122, 00 HRS, 00 MIN, 01 SEC

-MID-	-DESCRIPTION-	-VALUE-	-LIMITS-	-MID-	-DESCRIPTION-	-VALUE-	-LIMITS-
##	ZD5201 INST HT RJCT EV 1	51.0 KBTU	-409.5 409.5		ZD5202 INST HT RJCT EV 2	59.2 KBTU	-409.5 409
					ZD5203 INSTANT HEAT RJCT	104.1 KBTU	-409.5 409.5
##	ZD5211 TOT HT RJCT EVP 1	23.9 KBTU	-409.5 409.5		ZD5212 TOT HT RJCT EVP 2	24.6 KBTU	-409.5 409
					ZD5213 TOT HT RJCT	48.5 KBTU	-409.5 409.5
	ZW5221 TOT WATR FLW EV 1	23.3 LBS	-409.5 409.5		ZW5222 TOT WATR FLW EV 2	23.2 LBS	-409.5 409.5
					ZW5223 TOT WATR FLW	46.5 LBS	-409.5 409.5
					ZW5224 WATR ING DIFF WT.	45.0 LBS	-409.5 409.5
###	ZE5231 SIG EVE TOT EVP 1	27.5 MIN	-409.5 409.5	*	ZE5232 SIG EVE TOT EVP 2	27.5 MIN	-409.5 409
				*	ZE5234 TOTAL TEST TIME	2H.0 MIN	-409.5 409.5
##	ZD5241 AVG HT LOAD EVP 1A	51.1 KBTU	-409.5 409.5		ZD5242 AVG HT LOAD EVP 2A	55.8 KBTU	-409.5 409
					ZD5243 AVG HT LOAD A	103.9 KBTU	-409.5 409.5
##	ZW5251 AVG HT LOAD EVP 1A	50.0 KBTU	-409.5 409.5		ZW5252 AVG HT LOAD EVP 2A	48.1 KBTU	-409.5 409
					ZD5253 AVG HT LOAD B	99.1 KBTU	-409.5 409.5
##	ZF5261 AVG WATR USE EV 1	49.8 LBSH	-409.5 409.5		ZF5262 AVG WATR USE EV 2	48.8 LBSH	-409.5 409
					ZF5263 AVG WATR USE A	99.7 LBSH	-409.5 409.5
					ZF5264 AVG WATR USE B	96.6 LBSH	-409.5 409.5
##	ZH5271 AVG ENT CHNG EV 1	1026 BTUP	-4095 4095		ZH5272 AVG ENT CHNG EV 2	1060 BTUP	-4095 40
					ZH5273 AVG ENTP CHNG A	1043 BTUP	-4095 4095
					ZH5281 AVG ENTP CHNG B	1078 BTUP	-4095 4095
##	ZT5301 MIN F-21 OUT TEM 1	65.9 DEGF	-409.5 409.5		ZT5302 MIN F-21 OUT TEM 2	64.9 DEGF	-409.5 409
#	ZT5311 MAX F-21 OUT TEM 1	RRR DEGF	-409.5 409.5	#	ZT5312 MAX F-21 OUT TEM 2	RRR DEGF	-409.5 409.5
	ZD5321 TP-OFF DT HTR PWR 1	0.0 WATT	-409.5 409.5		ZD5351 TP-OFF DUCT 1 AVG	60.0 DEGF	-409.5 409.5
	ZD5322 TP-OF DT HTR PWR 2	0.0 WATT	-409.5 409.5		ZD5352 TP-OFF DUCT 2 AVG	52.7 DEGF	-409.5 409.5
	ZD5323 TP-OF DT HTR PWR 3	0.0 WATT	-409.5 409.5		ZD5353 TP-OFF DUCT 3 AVG	105.1 DEGF	-409.5 409.5
	ZD5324 TP-OF DT HTR PWR 4	0.0 WATT	-409.5 409.5		ZD5354 TP-OFF DUCT 4 AVG	94.6 DEGF	-409.5 409.5
	ZD5331 R-ETY DT HTR PWR 1	139.5 WATT	-409.5 409.5		ZD5355 R-ETRY DUCT 1 AVG	73.4 DEGF	-409.5 409.5
	ZD5332 R-ETY DT HTR PWR 2	185.8 WATT	-409.5 409.5		ZD5356 R-ETRY DUCT 2 AVG	64.1 DEGF	-409.5 409.5
	ZD5333 R-ETY DT HTR PWR 3	81.5 WATT	-409.5 409.5		ZD5359 R-ETRY DUCT 3 AVG	69.7 DEGF	-409.5 409.5
	ZN5341 S S NOZ HTR PWR	19.4 WATT	-409.5 409.5		ZN5357 SS NOZZLE 1 AVG	134.6 DEGF	-409.5 409.5
	ZN5342 S S NOZ HTR PWR	19.4 WATT	-409.5 409.5		ZN5358 SS NOZZLE 2 AVG	95.0 DEGF	-409.5 409.5
##	TM5403 MSFC ASPS TEMP 1	60.1 DEGF	-409.5 409.5		TM5404 MSFC ASPS TEMP 2	58.0 DEGF	-409.5 409
*	TF5501 P FLD CONT VLV IN	LLL DEGF	-409.5 409.5	*	TF5506 S FLD CONT VLV IN	LLL DEGF	-409.5 409.5
*	TF5528 P CON OUT MIX CH	UUU DEGF	-409.5 409.5	*	TF5530 S CON OUT MIX CH	UUU DEGF	-409.5 409.5
*	TF5529 P CON OUT MIX CH	UUU DEGF	-409.5 409.5	*	TF5531 S CON OUT MIX CH	UUU DEGF	-409.5 409.5
	FM5643 HI FL TO PRI VALV	2501 PPH	-4095 4095		FM5649 HI FLOW TO SEC PNL	2499 PPH	-4095 4095

-MID-	---DESCRIPTION---	---VALUE---	----LIMITS----		-MID-	---DESCRIPTION---	---VALUE---	----LIMITS----	
‡‡	TF5001 F-21 IN TO EVAP 1	139.7 DEGF	-409.5	409.5		TF5007 F-21 IN TO EVAP 2	140.7 DEGF	-409.5	409
	TF5002 F-21 IN TO EVAP 1	137.9 DEGF	-409.5	409.5		TF5008 F-21 IN TO EVAP 2	140.7 DEGF	-409.5	409.5
	TF5003 F-21 OUT OF EVAP 1	65.9 DEGF	-409.5	409.5		TF5009 F-21 OUT OF EVAP 2	63.9 DEGF	-409.5	409.5
	TF5004 F-21 OUT OF EVAP 1	66.9 DEGF	-409.5	409.5		TF5010 F-21 OUT OF EVAP 2	64.9 DEGF	-409.5	409.5
	TW5005 H2O IN TO EVAP 1	48.5 DEGF	-409.5	409.5		TW5011 H2O IN TO EVAP 2	49.4 DEGF	-409.5	409.5
	TW5006 H2O IN TO EVAP 1	48.6 DEGF	-409.5	409.5		TW5012 H2O IN TO EVAP 2	49.6 DEGF	-409.5	409.5
‡‡	TW5011 H2O IN TO EVAP 2	49.6 DEGF	-409.5	409.5		TD5017 EVAP EXH TOPOFF DT	84.4 DEGF	30.0	240
	TW5012 H2O IN TO EVAP 2	49.6 DEGF	-409.5	409.5		TD5018 EVAP EXH TOPOFF DT	42.5 DEGF	30.0	240.0
	TD5013 EVAP EXH TOPOFF DT	49.7 DEGF	30.0	240.0		TD5019 EVAP EXH TOPOFF DT	58.1 DEGF	30.0	240.0
	TD5014 EVAP EXH TOPOFF DT	49.7 DEGF	30.0	240.0		TD5020 EVAP EXH TOPOFF DT	129.3 DEGF	30.0	240.0
	TD5015 EVAP EXH TOPOFF DT	54.0 DEGF	30.0	240.0	#	TD5021 EVAP EXH TOPOFF DT	LLL DEGF	30.0	240.0
	TD5016 EVAP EXH TOPOFF DT	67.8 DEGF	30.0	240.0		TD5022 EVAP EXH TOPOFF DT	95.1 DEGF	30.0	240.0
‡‡	TD5023 EVAP RE-ENTRY DUCT	124.1 DEGF	30.0	240.0		TD5028 EVAP RE-ENTRY DUCT	70.6 DEGF	30.0	240
	TD5024 EVAP RE-ENTRY DUCT	142.2 DEGF	30.0	240.0		TD5029 EVAP RE-ENTRY DUCT	84.4 DEGF	30.0	240.0
	TD5025 EVAP RE-ENTRY DUCT	109.8 DEGF	30.0	240.0		TD5030 EVAP RE-ENTRY DUCT	81.7 DEGF	30.0	240.0
	TD5026 EVAP RE-ENTRY DUCT	73.4 DEGF	30.0	240.0		TD5031 EVAP RE-ENTRY DUCT	69.2 DEGF	30.0	240.0
	TD5027 EVAP RE-ENTRY DUCT	54.0 DEGF	30.0	240.0					
	TD5032 EVAP EXH RE-ENTRY	46.9 DEGF	30.0	240.0		TD5036 EVAP EXH RE-ENTRY	60.9 DEGF	30.0	240.0
	TD5033 EVAP EXH RE-ENTRY	52.6 DEGF	30.0	240.0		TD5037 EVAP EXH RE-ENTRY	52.4 DEGF	30.0	240.0
	TD5034 EVAP EXH RE-ENTRY	69.2 DEGF	30.0	240.0		TD5038 EVAP EXH RE-ENTRY	58.1 DEGF	30.0	240.0
	TD5035 EVAP EXH RE-ENTRY	80.3 DEGF	30.0	240.0		TD5039 EVAP EXH RE-ENTRY	56.8 DEGF	30.0	240.0
‡						PN5051 H2O TK GN2 PRESS	74.7 PSI	-409.5	409
	PF5052 F-21 DIF PRSS EV 1	12.5 PSID	-409.5	409.5		PF5053 F-21 DIF PRSS EV 2	13.5 PSID	-409.5	409.5
	PW5054 H2O SUP PRSS TO EV	0000 PSIA	-409.5	409.5	#	PW5055 H2O SUP PRSS TO EV	0000 PSIA	-409.5	409.5
	PE5056 EVAP 1 CHMBR PRSS	6.83 TORR	-40.95	40.95		PE5057 EVAP 2 CHMBR PRSS	6.83 TORR	-40.95	40.95
‡	PD5058 EXHT DUCT PRSS DP	0.19 TORR	-40.95	40.95		PD5065 EXHT DUCT PRSS DP	0.42 TORR	-40.95	40.
	PD5059 EXHT DUCT PRSS DP	0.20 TORR	-40.95	40.95		PD5066 EXHT DUCT PRSS DP	0.01 TORR	-40.95	40.95
	PD5060 EXHT DUCT PRSS DP	0000 TORR	-40.95	40.95		PD5067 EXHT DUCT PRSS DP	0.01 TORR	-40.95	40.95
	PD5061 EXHT DUCT PRSS	1.59 TORR	-40.95	40.95		PD5068 EXHT DUCT PRSS DP	0.01 TORR	-40.95	40.95
	PD5062 EXHT DUCT PRSS	7.14 TORR	-40.95	40.95		PD5069 EXHT DUCT PRSS DP	0.01 TORR	-40.95	40.95
	PD5063 EXHT DUCT PRSS	6.71 TORR	-40.95	40.95		PD5070 EXHT DUCT PRSS DP	0.99 TORR	-40.95	40.95
	PD5064 EXHT DUCT PRSS	0.001 TORR	-4.095	4.095		PD5071 EXHT DUCT PRSS DP	0.001 TORR	-4.095	4.095
‡						FW5081 TOT H2O FLO TO EVP	94.4 PPH	-409.5	409
	FW5082 H2O FLO TO FL EVAP	49.6 PPH	-409.5	409.5		FW5083 H2O FLO TO FL EVAP	49.6 PPH	-409.5	409.5
						WT5091 H2O TANK WEIGHT	13.6 LBS	-409.5	409.5
‡	HI5170 TOP OFF DUCT HTR 1	0.00 AMPS	-40.95	40.95		HI5172 TOP OFF DUCT HTR 3	0.01 AMPS	-40.95	40.
	HI5171 TOP OFF DUCT HTR 2	0.00 AMPS	-40.95	40.95		HI5173 TOP OFF DUCT HTR 4	0.04 AMPS	-40.95	40.95
‡	HI5174 R-ETY DT HTR PWR 1	3.07 AMPS	-40.95	40.95		HI5178 R-ETY DT HTR PWR 3	1.84 AMPS	-40.95	40.
	HI5175 R-ETY DT HTR PWR 2	3.52 AMPS	-40.95	40.95					
‡‡	HI5176 S S NOZZLE HTR	0.27 AMPS	-40.95	40.95		HI5177 S S NOZZLE HTR	0.26 AMPS	-40.95	40
‡‡	FW5643 HI FL TO PRI VALV	2514 PPH	- 4095	4095		FW5649 HI FLOW TO SEC PNL	2561 PPH	- 4095	4
						FW5660 F21 TOTAL FLOW	5.07 KPPH	-40.95	40.95

	Z05201 INST HT REJCT EV 1	47.7 KBTU	-409.5	409.5	Z05202 INST HT REJCT EV 2	49.9 KBTU	-409.5 409
					Z05203 INSTANT HEAT REJCT	97.6 KBTU	-409.5 409.5
	Z05211 TOT HT REJCT EVP 1	24.8 KBTU	-409.5	409.5	Z05212 TOT HT REJCT EVP 2	25.2 KBTU	-409.5 409.5
					Z05213 TOT HT REJCT	50.0 KBTU	-409.5 409.5
	Z05221 TOT WATR FLW EV 1	24.0 LBS	-409.5	409.5	Z05222 TOT WATR FLW EV 2	24.3 LBS	-409.5 409
					Z05223 TOT WATR FLW	49.0 LBS	-409.5 409.5
					Z05224 WATR TNK DIFF WT.	47.8 LBS	-409.5 409.5
*	ZE5231 SIG EVE TOT EVP 1	28.2 MIN	-409.5	409.5	* ZE5232 SIG EVE TOT EVP 2	28.2 MIN	-409.5 409
*					ZE5234 TOTAL TEST TIME	30.1 MIN	-409.5 409.5
	Z05241 AVG HT LOAD EVP 1A	49.4 KBTU	-409.5	409.5	Z05242 AVG HT LOAD EVP 2A	50.3 KBTU	-409.5 409
					Z05243 AVG HT LOAD A	99.7 KBTU	-409.5 409.5
	Z05251 AVG HT LOAD EVP 1B	48.5 KBTU	-409.5	409.5	Z05252 AVG HT LOAD EVP 2B	44.9 KBTU	-409.5 409
					Z05253 AVG HT LOAD B	95.6 KBTU	-409.5 409.5
	ZF5261 AVG WATR USE EV 1	49.3 LBSM	-409.5	409.5	ZF5262 AVG WATR USE EV 2	48.3 LBSM	-409.5 409
					ZF5263 AVG WATR USE A	97.7 LBSM	-409.5 409.5
					ZF5264 AVG WATR USE B	96.6 LBSM	-409.5 409.5
	ZH5271 AVG ENT CHNG EV 1	1002 BTUP	- 4095	4095	ZH5272 AVG ENT CHNG EV 2	1040 BTUP	- 4095 40
					ZH5273 AVG ENTP CHNG A	1021 BTUP	- 4095 4095
					ZH5281 AVG ENTP CHNG B	1056 BTUP	- 4095 4095
	ZT5301 MIN F-21 OUT TEM 1	61.9 DEGF	-409.5	409.5	ZT5302 MIN F-21 OUT TEM 2	61.9 DEGF	-409.5 409.5
#	ZT5311 MAX F-21 OUT TEM 1	RRR DEGF	-409.5	409.5	# ZT5312 MAX F-21 OUT TEM 2	RRR DEGF	-409.5 409.5
	Z05321 TP-OFF DT HTR PWR 1	0.0 WATT	-409.5	409.5	Z05351 TP-OFF DUCT 1 AVG	54.9 DEGF	-409.5 409
	Z05322 TP-OF DT HTR PWR 2	0.0 WATT	-409.5	409.5	Z05352 TP-OFF DUCT 2 AVG	52.1 DEGF	-409.5 409.5
	Z05323 TP-OF DT HTR PWR 3	0.0 WATT	-409.5	409.5	Z05353 TP-OFF DUCT 3 AVG	81.8 DEGF	-409.5 409.5
	Z05324 TP-OF DT HTR PWR 4	0.0 WATT	-409.5	409.5	Z05354 TP-OFF DUCT 4 AVG	69.7 DEGF	-409.5 409.5
	Z05331 R-ETY DT HTR PWR 1	141.1 WATT	-409.5	409.5	Z05355 R-ETRY DUCT 1 AVG	72.7 DEGF	-409.5 409.5
	Z05332 R-ETY DT HTR PWR 2	183.9 WATT	-409.5	409.5	Z05356 R-ETRY DUCT 2 AVG	59.7 DEGF	-409.5 409.5
	Z05333 R-ETY DT HTR PWR 3	80.3 WATT	-409.5	409.5	Z05359 R-ETRY DUCT 3 AVG	67.4 DEGF	-409.5 409.5
	ZN5341 S S NOZ HTR PWR	19.4 WATT	-409.5	409.5	ZN5357 SS NUZZLE 1 AVG	133.2 DEGF	-409.5 409.5
	ZN5342 S S NOZ HTR PWR	19.4 WATT	-409.5	409.5	ZN5358 SS NUZZLE 2 AVG	91.6 DEGF	-409.5 409.5
	TM5403 MSFC ASPS TEMP 1	57.4 DEGF	-409.5	409.5	TM5404 MSFC ASPS TEMP 2	54.6 DEGF	-409.5 409
*	TF5501 P FLO CONT VLV IN	LLL DEGF	-409.5	409.5	* TF5506 S FLO CONT VLV IN	LLL DEGF	-409.5 409.5
*	TF5529 P CON OUT MIX CH	UUU DEGF	-409.5	409.5	* TF5530 S CON OUT MIX CH	UUU DEGF	-409.5 409.5
*	TF5529 P CON OUT MIX CH	UUU DEGF	-409.5	409.5	* TF5531 S CON OUT MIX CH	UUU DEGF	-409.5 409.5
	FM5643 HI FL TO PRI VALV	2514 PPH	- 4095	4095	FM5649 HI FLOW TO SEC PNL	2561 PPH	- 4095 40

	TE5007 F=21 IN TO EVAP 2	134.1 DEGF	-409.5	409					
	TE5008 F=21 IN TO EVAP 2	134.1 DEGF	-409.5	409.5					
	TE5009 F=21 OUT OF EVAP 2	84.0 DEGF	-409.5	409.5					
	TE5010 F=21 OUT OF EVAP 2	84.0 DEGF	-409.5	409.5					
	TW5011 H2O IN TO EVAP 2	44.4 DEGF	-409.5	409.5					
	TW5012 H2O IN TO EVAP 2	44.4 DEGF	-409.5	409.5					
!!	T 5011 H2O I: TO EVAP .	40.0 DEGF	-409.5	409.5		TD5017 EVAP EXH TOPOFF DT	88.4 DEGF	30.0	24
	TW5012 H2O IN TO EVAP 2	49.6 DEGF	-409.5	409.5		TD5018 EVAP EXH TOPOFF DT	30.0 DEGF	30.0	240.0
	TD5013 EVAP EXH TOPOFF DT	49.7 DEGF	30.0	240.0		TD5019 EVAP EXH TOPOFF DT	49.7 DEGF	30.0	240.0
	TD5014 EVAP EXH TOPOFF DT	48.3 DEGF	30.0	240.0		TD5020 EVAP EXH TOPOFF DT	126.7 DEGF	30.0	240.0
	TD5015 EVAP EXH TOPOFF DT	44.0 DEGF	30.0	240.0	#	TD5021 EVAP EXH TOPOFF DT	LLL DEGF	30.0	240.0
	TD5016 EVAP EXH TOPOFF DT	77.5 DEGF	30.0	240.0		TD5022 EVAP EXH TOPOFF DT	89.7 DEGF	30.0	240.0
!!	TD5023 EVAP RE-ENTRY DUCT	121.5 DEGF	30.0	240.0		TD5028 EVAP RE-ENTRY DUCT	92.4 DEGF	30.0	240
	TD5024 EVAP RE-ENTRY DUCT	139.6 DEGF	30.0	240.0		TD5029 EVAP RE-ENTRY DUCT	104.6 DEGF	30.0	240.0
	TD5025 EVAP RE-ENTRY DUCT	104.5 DEGF	30.0	240.0		TD5030 EVAP RE-ENTRY DUCT	95.1 DEGF	30.0	240.0
	TD5026 EVAP RE-ENTRY DUCT	87.8 DEGF	30.0	240.0		TD5031 EVAP RE-ENTRY DUCT	72.0 DEGF	30.0	240.0
	TD5027 EVAP RE-ENTRY DUCT	56.4 DEGF	30.0	240.0					
	TD5032 EVAP EXH RE-ENTRY	44.0 DEGF	30.0	240.0		TD5036 EVAP EXH RE-ENTRY	76.9 DEGF	30.0	240.0
	TD5033 EVAP EXH RE-ENTRY	49.7 DEGF	30.0	240.0		TD5037 EVAP EXH RE-ENTRY	44.0 DEGF	30.0	240.0
	TD5034 EVAP EXH RE-ENTRY	74.8 DEGF	30.0	240.0		TD5038 EVAP EXH RE-ENTRY	49.7 DEGF	30.0	240.0
	TD5035 EVAP EXH RE-ENTRY	78.9 DEGF	30.0	240.0		TD5039 EVAP EXH RE-ENTRY	48.3 DEGF	30.0	240.0
!!						PN5051 H2O TK GN2 PRESS	78.9 PSI	-409.5	409
	PE5052 F=21 DIF PRSS EV 1	14.5 PSID	-409.5	409.5		PE5053 F=21 DIF PRSS EV 2	15.3 PSID	-409.5	409.5
#	PW5054 H2O SUP PRSS TO EV	UUU PSIA	-409.5	409.5	#	PW5055 H2O SUP PRSS TO EV	UUU PSIA	-409.5	409.5
	PE5056 EVAP 1 CHMBR PRSS	6.40 TORR	-40.95	40.95		PE5057 EVAP 2 CHMBR PRSS	6.20 TORR	-40.95	40.95
!!	PD5058 EXHT DUCT PRSS DP	0.14 TORR	-40.95	40.95		PD5066 EXHT DUCT PRSS DP	0.48 TORR	-40.95	40.
	PD5059 EXHT DUCT PRSS DP	0.25 TORR	-40.95	40.95		PD5066 EXHT DUCT PRSS DP	0.01 TORR	-40.95	40.95
#	PD5060 EXHT DUCT PRSS DP	UUU TORR	-40.95	40.95		PD5067 EXHT DUCT PRSS DP	0.01 TORR	-40.95	40.95
	PD5061 EXHT DUCT PRSS	1.20 TORR	-40.95	40.95		PD5068 EXHT DUCT PRSS DP	0.01 TORR	-40.95	40.95
	PD5062 EXHT DUCT PRSS	6.47 TORR	-40.95	40.95		PD5069 EXHT DUCT PRSS DP	0.01 TORR	-40.95	40.95
	PD5063 EXHT DUCT PRSS	6.32 TORR	-40.95	40.95	#	PD5070 EXHT DUCT PRSS DP	UUU TORR	-40.95	40.95
	PD5064 EXHT DUCT PRSS	0.001 TORR	-4.095	4.095		PD5071 EXHT DUCT PRSS DP	0.001 TORR	-4.095	4.095
!!						FW5081 TOT H2O FLO TO EVP	98.3 PPH	-409.5	409
	FW5082 H2O FLO TO FL EVAP	49.6 PPH	-409.5	409.5		FW5083 H2O FLO TO FL EVAP	49.0 PPH	-409.5	409.5
						WT5091 H2O TANK WEIGHT	57.5 LBS	-409.5	409.5
!!	HI5170 TOP OFF DUCT HTR 1	0.00 AMPS	-40.95	40.95		HI5172 TOP OFF DUCT HTR 3	0.01 AMPS	-40.95	40.
	HI5171 TOP OFF DUCT HTR 2	0.00 AMPS	-40.95	40.95		HI5173 TOP OFF DUCT HTR 4	0.02 AMPS	-40.95	40.95
!!	HI5174 R-ETY DT HTR PWR 1	3.64 AMPS	-40.95	40.95		HI5176 R-ETY DT HTR PWR 3	1.84 AMPS	-40.95	40.
	HI5175 R-ETY DT HTR PWR 2	3.78 AMPS	-40.95	40.95					
	HI5176 S S NOZZLE HTR	0.28 AMPS	-40.95	40.95		HI5177 S S NUZZLE HTR	0.24 AMPS	-40.95	40.95
!!	FW5443 HI FL TO PRI VALV	2751 PPH	- 4095	4095		FW5449 HI FLOW TO SEC PNL	2746 PPH	- 4095	40
						FW5660 F21 TOTAL FLOW	5.48 KPPH	-40.95	40.95

-MID-	-DESCRIPTION-	-VALUE-	-LIMITS-	-MID-	-DESCRIPTION-	-VALUE-	-LIMITS-
‡‡	ZV5201 INST HT RJCT EV 1	50.8 KBTU	-409.5 409.5		ZV5202 INST HT RJCT EV 2	40.3 KBTU	-409.5 409
					ZV5203 INSTANT HEAT RJCT	100.1 KBTU	-409.5 409.5
‡‡	ZV5211 TOT HT RJCT EVP 1	40.8 KBTU	-409.5 409.5		ZV5212 TOT HT RJCT EVP 2	40.8 KBTU	-409.5 409
					ZV5213 TOT HT RJCT	81.6 KBTU	-409.5 409.5
‡‡	ZV5221 TOT WATR FLW EV 1	40.6 LBS	-409.5 409.5		ZV5222 TOT WATR FLW EV 2	39.4 LBS	-409.5 409
					ZV5223 TOT WATR FLW	80.0 LBS	-409.5 409.5
					ZV5224 WATR TNK DIFF WT	77.7 LBS	-409.5 409.5
‡‡*	ZV5231 SIG EVE TOT EVP 1	46.0 MIN	-409.5 409.5	*	ZV5232 SIG EVE TOT EVP 2	46.0 MIN	-409.5 409
				*	ZV5234 TOTAL TEST TIME	49.1 MIN	-409.5 409.5
‡‡	ZV5241 AVG HT LOAD EVP 1A	49.9 KBTU	-409.5 409.5		ZV5242 AVG HT LOAD EVP 2A	49.8 KBTU	-409.5 409
					ZV5243 AVG HT LOAD A	99.7 KBTU	-409.5 409.5
	ZV5251 AVG HT LOAD EVP 1B	49.7 KBTU	-409.5 409.5		ZV5252 AVG HT LOAD EVP 2B	46.8 KBTU	-409.5 409.5
					ZV5253 AVG HT LOAD B	96.5 KBTU	-409.5 409.5
‡‡	ZF5261 AVG WATR USE EV 1	49.8 LBSM	-409.5 409.5		ZF5262 AVG WATR USE EV 2	48.1 LBSM	-409.5 409
					ZF5263 AVG WATR USE A	97.7 LBSM	-409.5 409.5
					ZF5264 AVG WATR USE B	96.9 LBSM	-409.5 409.5
‡‡	ZH5271 AVG ENT CHNG EV 1	1006 BTUP	- 4095 4095		ZH5272 AVG ENT CHNG EV 2	1034 BTUP	- 4095 40
					ZH5273 AVG ENTR CHNG A	1020 BTUP	- 4095 4095
					ZH5281 AVG ENTR CHNG B	1050 BTUP	- 4095 4095
‡‡	ZT5301 MIN F-21 OUT TEM 1	61.9 DEGF	-409.5 409.5		ZT5302 MIN F-21 OUT TEM 2	60.9 DEGF	-409.5 409
#	ZT5311 MAX F-21 OUT TEM 1	RRR DEGF	-409.5 409.5	#	ZT5312 MAX F-21 OUT TEM 2	RRR DEGF	-409.5 409.5
‡‡	ZD5321 TP-OF DT HTR PWR 1	0.0 WATT	-409.5 409.5		ZD5351 TP-OFF DUCT 1 AVG	68.9 DEGF	-409.5 409
	ZD5322 TP-OF DT HTR PWR 2	0.0 WATT	-409.5 409.5		ZD5352 TP-OFF DUCT 2 AVG	65.9 DEGF	-409.5 409.5
	ZD5323 TP-OF DT HTR PWR 3	0.0 WATT	-409.5 409.5		ZD5353 TP-OFF DUCT 3 AVG	83.5 DEGF	-409.5 409.5
	ZD5324 TP-OF DT HTR PWR 4	0.0 WATT	-409.5 409.5		ZD5354 TP-OFF DUCT 4 AVG	71.9 DEGF	-409.5 409.5
	ZD5331 R-ETY DT HTR PWR 1	201.4 WATT	-409.5 409.5		ZD5355 R-ETRY DUCT 1 AVG	87.2 DEGF	-409.5 409.5
	ZD5332 R-ETY DT HTR PWR 2	214.6 WATT	-409.5 409.5		ZD5356 R-ETRY DUCT 2 AVG	64.1 DEGF	-409.5 409.5
	ZD5333 R-ETY DT HTR PWR 3	80.3 WATT	-409.5 409.5		ZD5359 R-ETRY DUCT 3 AVG	67.8 DEGF	-409.5 409.5
	ZN5341 S S NOZ HTR PWR	19.4 WATT	-409.5 409.5		ZN5357 SS NOZZLE 1 AVG	130.0 DEGF	-409.5 409.5
	ZN5342 S S NOZ HTR PWR	19.4 WATT	-409.5 409.5		ZN5358 SS NOZZLE 2 AVG	86.2 DEGF	-409.5 409.5
‡‡	TM5403 MSFC ASPS TEMP 1	57.4 DEGF	-409.5 409.5		TM5404 MSFC ASPS TEMP 2	56.3 DEGF	-409.5 409
*	TF5501 P FLD CONT VLV IN	LLL DEGF	-409.5 409.5	*	TF5506 S FLD CONT VLV IN	UUU DEGF	-409.5 409.5
*	TF5528 P CON OUT MIX CH	UUU DEGF	-409.5 409.5	*	TF5530 S CON OUT MIX CH	UUU DEGF	-409.5 409.5
*	TF5529 P CON OUT MIX CH	UUU DEGF	-409.5 409.5	*	TF5531 S CON OUT MIX CH	UUU DEGF	-409.5 409.5
‡‡	FM5643 HI FL TO PRI VALV	2751 PPH	- 4095 4095		FM5649 HI FLOW TO SEC PNL	2746 PPH	- 4095 40

-MID-	---DESCRIPTION----	---VALUE---	----LIMITS----	-MID-	---DESCRIPTION----	---VALUE---	----LIMITS----
TF5001	F-21 IN TO EVAP 1	136.0 DEGF	-409.5 409.5	TF5007	F-21 IN TO EVAP 2	134.0 DEGF	-409.5 409
TF5002	F-21 IN TO EVAP 1	134.1 DEGF	-409.5 409.5	TF5009	F-21 IN TO EVAP 2	135.0 DEGF	-409.5 409.5
TF5003	F-21 OUT OF EVAP 1	72.9 DEGF	-409.5 409.5	TF5009	F-21 OUT OF EVAP 2	64.0 DEGF	-409.5 409.5
TF5004	F-21 OUT OF EVAP 1	72.9 DEGF	-409.5 409.5	TF5010	F-21 OUT OF EVAP 2	66.0 DEGF	-409.5 409.5
TW5005	H2O IN TO EVAP 1	113.4 DEGF	-409.5 409.5	TW5011	H2O IN TO EVAP 2	112.2 DEGF	-409.5 409.5
TW5006	H2O IN TO EVAP 1	113.4 DEGF	-409.5 409.5	TW5012	H2O IN TO EVAP 2	110.4 DEGF	-409.5 409.5
TW5011	H2O IN TO EVAP 2	112.2 DEGF	-409.5 409.5	TD5017	EVAP EXH TOPOFF DT	81.7 DEGF	30.0 240
TW5012	H2O IN TO EVAP 2	110.4 DEGF	-409.5 409.5	TD5018	EVAP EXH TOPOFF DT	35.4 DEGF	30.0 240.0
TD5013	EVAP EXH TOPOFF DT	95.1 DEGF	30.0 240.0	TD5019	EVAP EXH TOPOFF DT	45.4 DEGF	30.0 240.0
TD5014	EVAP EXH TOPOFF DT	89.2 DEGF	30.0 240.0	TD5020	EVAP EXH TOPOFF DT	126.7 DEGF	30.0 240.0
TD5015	EVAP EXH TOPOFF DT	39.7 DEGF	30.0 240.0	TD5021	EVAP EXH TOPOFF DT	LLL DEGF	30.0 240.0
TD5016	EVAP EXH TOPOFF DT	93.8 DEGF	30.0 240.0	TD5022	EVAP EXH TOPOFF DT	88.4 DEGF	30.0 240.0
TD5023	EVAP RE-ENTRY DUCT	117.7 DEGF	30.0 240.0	TD5028	EVAP RE-ENTRY DUCT	70.4 DEGF	30.0 240
TD5024	EVAP RE-ENTRY DUCT	137.0 DEGF	30.0 240.0	TD5029	EVAP RE-ENTRY DUCT	103.1 DEGF	30.0 240.0
TD5025	EVAP RE-ENTRY DUCT	101.8 DEGF	30.0 240.0	TD5030	EVAP RE-ENTRY DUCT	97.8 DEGF	30.0 240.0
TD5026	EVAP RE-ENTRY DUCT	80.4 DEGF	30.0 240.0	TD5031	EVAP RE-ENTRY DUCT	70.4 DEGF	30.0 240.0
TD5027	EVAP RE-ENTRY DUCT	54.0 DEGF	30.0 240.0				
TD5032	EVAP EXH RE-ENTRY	45.4 DEGF	30.0 240.0	TD5036	EVAP EXH RE-ENTRY	49.3 DEGF	30.0 240.0
TD5033	EVAP EXH RE-ENTRY	55.4 DEGF	30.0 240.0	TD5037	EVAP EXH RE-ENTRY	36.8 DEGF	30.0 240.0
TD5034	EVAP EXH RE-ENTRY	36.8 DEGF	30.0 240.0	TD5038	EVAP EXH RE-ENTRY	42.5 DEGF	30.0 240.0
TD5035	EVAP EXH RE-ENTRY	60.9 DEGF	30.0 240.0	TD5039	EVAP EXH RE-ENTRY	41.1 DEGF	30.0 240.0
				PN5051	H2O TK GN2 PRESS	64.0 PSI	-409.5 409
PF5052	F-21 DIF PRSS EV 1	14.8 PSID	-409.5 409.5	PF5053	F-21 DIF PRSS EV 2	15.4 PSID	-409.5 409.5
PW5054	H2O SUP PRSS TO EV	43.7 PSIA	-409.5 409.5	PW5055	H2O SUP PRSS TO EV	43.9 PSIA	-409.5 409.5
PE5056	EVAP 1 CHMBR PRSS	7.38 TORR	-40.95 40.95	PE5057	EVAP 2 CHMBR PRSS	7.30 TORR	-40.95 40.95
PD5058	EXHT DUCT PRSS DP	0.14 TORR	-40.95 40.95	PD5065	EXHT DUCT PRSS DP	0.49 TORR	-40.95 40.
PD5059	EXHT DUCT PRSS DP	0.17 TORR	-40.95 40.95	PD5066	EXHT DUCT PRSS DP	0.01 TORR	-40.95 40.95
PD5060	EXHT DUCT PRSS DP	000 TORR	-40.95 40.95	PD5067	EXHT DUCT PRSS DP	0.01 TORR	-40.95 40.95
PD5061	EXHT DUCT PRSS	1.74 TORR	-40.95 40.95	PD5068	EXHT DUCT PRSS DP	0.01 TORR	-40.95 40.95
PD5062	EXHT DUCT PRSS	7.45 TORR	-40.95 40.95	PD5069	EXHT DUCT PRSS DP	0.01 TORR	-40.95 40.95
PD5063	EXHT DUCT PRSS	7.26 TORR	-40.95 40.95	PD5070	EXHT DUCT PRSS DP	0.98 TORR	-40.95 40.95
PD5064	EXHT DUCT PRSS	0.001 TORR	-4.095 4.095	PD5071	EXHT DUCT PRSS DP	0.001 TORR	-4.095 4.095
				FW5081	TOT H2O FLO TO EVP	98.4 PPH	-409.5 409
FW5082	H2O FLO TO FL EVAP	49.6 PPH	-409.5 409.5	FW5083	H2O FLO TO FL EVAP	50.2 PPH	-409.5 409.5
				WT5091	H2O TANK WEIGHT	75.3 LBS	-409.5 409.5
HI5170	TOP OFF DUCT HTR 1	0.00 AMPS	-40.95 40.95	HI5172	TOP OFF DUCT HTR 3	- 0.01 AMPS	-40.95 40.
HI5171	TOP OFF DUCT HTR 2	- 0.01 AMPS	-40.95 40.95	HI5173	TOP OFF DUCT HTR 4	- 0.04 AMPS	-40.95 40.95
HI5174	R-ETY DT HTR PWR 1	3.64 AMPS	-40.95 40.95	HI5178	R-ETY DT HTR PWR 3	1.88 AMPS	-40.95 40
HI5175	R-ETY DT HTR PWR 2	3.52 AMPS	-40.95 40.95				
HI5176	S S NOZZLE HTR	0.27 AMPS	-40.95 40.95	HI5177	S S NOZZLE HTR	0.27 AMPS	-40.95 40.
FM5643	HI FL TO PRI VALV	2764 PPH	- 4095 4095	FM5644	HI FLOW TO SEC PNL	2759 PPH	- 4095 40
				FM5660	F21 TOTAL FLOW	5.44 KPPH	-40.95 40.95

-MID-	---DESCRIPTION----	---VALUE---	----LIMITS----		-MID-	---DESCRIPTION----	---VALUE---	----LIMITS----	
##	ZW5211 TOT HT REJCT EVP 1	45.7 KBTU	-409.5	409.5		ZW5202 TOT HT REJCT EV 2	40.4 KBTU	-409.5	409
						ZW5203 TOTAL HEAT REJCT	95.4 KBTU	-409.5	409.5
	ZW5211 TOT HT REJCT EVP 1	22.9 KBTU	-409.5	409.5		ZW5212 TOT HT REJCT EVP 2	25.2 KBTU	-409.5	409.5
						ZW5213 TOT HT REJCT	48.1 KBTU	-409.5	409.5
##	ZW5221 TOT WATR FLW EV 1	25.0 LBS	-409.5	409.5		ZW5222 TOT WTR FLW EV 2	24.3 LBS	-409.5	409
						ZW5223 TOT WATR FLW	50.3 LBS	-409.5	409.5
						ZW5224 WATR TNK DIFF WT.	49.2 LBS	-409.5	409.5
###	ZE5231 SIS EVE TOT EVP 1	30.6 MIN	-409.5	409.5	*	ZE5232 SIS EVE TOT EVP 2	30.6 MIN	-409.5	409
					*	ZE5234 TOTAL TEST TIME	30.7 MIN	-409.5	409.5
##	ZW5241 AVG HT LOAD EVP 1A	44.9 KBTU	-409.5	409.5		ZW5242 AVG HT LOAD EVP 2A	40.3 KBTU	-409.5	409
						ZW5243 AVG HT LOAD A	94.1 KBTU	-409.5	409.5
##	ZW5251 AVG HT LOAD EVP 1B	50.0 KBTU	-409.5	409.5		ZW5252 AVG HT LOAD EVP 2B	48.9 KBTU	-409.5	409
						ZW5253 AVG HT LOAD B	99.0 KBTU	-409.5	409.5
##	ZF5261 AVG WATR USE EV 1	48.9 LBSH	-409.5	409.5		ZF5262 AVG WATR USE EV 2	49.4 LBSH	-409.5	409
						ZF5263 AVG WATR USE A	98.5 LBSH	-409.5	409.5
						ZF5264 AVG WATR USE B	98.3 LBSH	-409.5	409.5
##	ZW5271 AVG ENT CHNG EV 1	918 BTUP	-4095	4095		ZW5272 AVG ENT CHNG EV 2	993 BTUP	-4095	40
						ZW5273 AVG ENTP CHNG A	956 BTUP	-4095	4095
						ZW5281 AVG ENTP CHNG B	978 BTUP	-4095	4095
##	ZT5301 MIN F-21 OUT TEM 1	47.9 DEGF	-409.5	409.5		ZT5302 MIN F-21 OUT TEM 2	63.9 DEGF	-409.5	409
#	ZT5311 MAX F-21 OUT TEM 1	HHH DEGF	-409.5	409.5	#	ZT5312 MAX F-21 OUT TEM 2	HHH DEGF	-409.5	409.5
##	ZD5321 TP-OFF DT HTR PWR 1	0.0 WATT	-409.5	409.5		ZD5351 TP-OFF DUCT 1 AVG	50.9 DEGF	-409.5	409
	ZD5322 TP-OF DT HTR PWR 2	0.0 WATT	-409.5	409.5		ZD5352 TP-OFF DUCT 2 AVG	57.2 DEGF	-409.5	409.5
	ZD5323 TP-OF DT HTR PWR 3	0.0 WATT	-409.5	409.5		ZD5353 TP-OFF DUCT 3 AVG	91.8 DEGF	-409.5	409.5
	ZD5324 TP-OF DT HTR PWR 4	0.0 WATT	-409.5	409.5		ZD5354 TP-OFF DUCT 4 AVG	74.1 DEGF	-409.5	409.5
	ZD5331 R-ETRY DT HTR PWR 1	199.0 WATT	-409.5	409.5		ZD5355 R-ETRY DUCT 1 AVG	81.4 DEGF	-409.5	409.5
	ZD5332 R-ETRY DT HTR PWR 2	142.3 WATT	-409.5	409.5		ZD5356 R-ETRY DUCT 2 AVG	54.8 DEGF	-409.5	409.5
	ZD5334 R-ETRY DT HTR PWR 3	79.8 WATT	-409.5	409.5		ZD5359 R-ETRY DUCT 3 AVG	51.3 DEGF	-409.5	409
	ZW5341 S S NOZ HTR PWR	22.2 WATT	-409.5	409.5		ZW5357 SS NOZZLE 1 AVG	128.1 DEGF	-409.5	409.5
	ZW5342 S S NOZ HTR PWR	19.4 WATT	-409.5	409.5		ZW5358 SS NOZZLE 2 AVG	91.1 DEGF	-409.5	409.5
###	TM5403 MSFC ASPS TEMP 1	56.0 DEGF	-409.5	409.5		TM5404 MSFC ASPS TEMP 2	48.8 DEGF	-409.5	40
*	TF5501 P FLO CONT VLV IN	LLL DEGF	-409.5	409.5	*	TF5504 S FLO CONT VLV IN	161.9 DEGF	-409.5	409.5
*	TF5502 P CON OUT MIX CH	UUU DEGF	-409.5	409.5	*	TF5530 S CON OUT MIX CH	UUU DEGF	-409.5	409.5
*	TF5534 P CON OUT MIX CH	UUU DEGF	-409.5	409.5	*	TF5531 S CON OUT MIX CH	UUU DEGF	-409.5	409.5
##	FM5503 HI FL TO PRI VALV	2764 PPH	-4095	4095		FM5504 HI FLOW TO SEC PNL	2759 PPH	-4095	40

1 PASS

PAGE 01 CSI 19/EVAP SCOOP (0005) CHANNEL A (AT 122: 04 HRS, 39 MIN, 32 SEC

-MID-	---DESCRIPTION----	---VALUE---	----LIMITS----		-MID-	---DESCRIPTION----	---VALUE---	----LIMITS----	
TF5001	F-21 IN TO EVAP 1	134.1 DEGF	-409.5	409.5	TF5007	F-21 IN TO EVAP 2	136.0 DEGF	-409.5	409.5
TF5002	F-21 IN TO EVAP 1	132.3 DEGF	-409.5	409.5	TF5008	F-21 IN TO EVAP 2	134.0 DEGF	-409.5	409.5
TF5003	F-21 OUT OF EVAP 1	70.9 DEGF	-409.5	409.5	TF5009	F-21 OUT OF EVAP 2	66.3 DEGF	-409.5	409.5
TF5004	F-21 OUT OF EVAP 1	70.9 DEGF	-409.5	409.5	TF5010	F-21 OUT OF EVAP 2	66.0 DEGF	-409.5	409.5
TW5005	H2O IN TO EVAP 1	107.7 DEGF	-409.5	409.5	TW5011	H2O IN TO EVAP 2	109.6 DEGF	-409.5	409.5
TW5006	H2O IN TO EVAP 1	107.7 DEGF	-409.5	409.5	TW5012	H2O IN TO EVAP 2	108.4 DEGF	-409.5	409.5
‡‡ TW5011	H2O IN TO EVAP 2	109.5 DEGF	-409.5	409.5	TD5017	EVAP EXH TOPOFF DT	80.3 DEGF	30.0	240
TW5012	H2O IN TO EVAP 2	108.6 DEGF	-409.5	409.5	TD5018	EVAP EXH TOPOFF DT	31.0 DEGF	30.0	240.0
TD5013	EVAP EXH TOPOFF DT	95.1 DEGF	30.0	240.0	TD5019	EVAP EXH TOPOFF DT	36.8 DEGF	30.0	240.0
TD5014	EVAP EXH TOPOFF DT	73.4 DEGF	30.0	240.0	TD5020	EVAP EXH TOPOFF DT	124.1 DEGF	30.0	240.0
# TD5015	EVAP EXH TOPOFF DT	79.6 DEGF	30.0	240.0	# TD5021	EVAP EXH TOPOFF DT	LLL DEGF	30.0	240.0
TD5016	EVAP EXH TOPOFF DT	89.7 DEGF	30.0	240.0	TD5022	EVAP EXH TOPOFF DT	80.3 DEGF	30.0	240.0
‡‡ TD5023	EVAP RE-ENTRY DUCT	117.7 DEGF	30.0	240.0	TD5028	EVAP RE-ENTRY DUCT	54.0 DEGF	30.0	240
TD5024	EVAP RE-ENTRY DUCT	137.0 DEGF	30.0	240.0	TD5029	EVAP RE-ENTRY DUCT	83.0 DEGF	30.0	240.0
TD5025	EVAP RE-ENTRY DUCT	104.5 DEGF	30.0	240.0	TD5030	EVAP RE-ENTRY DUCT	80.3 DEGF	30.0	240.0
TD5026	EVAP RE-ENTRY DUCT	99.1 DEGF	30.0	240.0	TD5031	EVAP RE-ENTRY DUCT	59.6 DEGF	30.0	240.0
TD5027	EVAP RE-ENTRY DUCT	54.0 DEGF	30.0	240.0					
‡‡ TD5032	EVAP EXH RE-ENTRY	46.9 DEGF	30.0	240.0	TD5036	EVAP EXH RE-ENTRY	40.7 DEGF	30.0	240
TD5033	EVAP EXH RE-ENTRY	49.7 DEGF	30.0	240.0	# TD5037	EVAP EXH RE-ENTRY	26.7 DEGF	30.0	240.0
TD5034	EVAP EXH RE-ENTRY	33.9 DEGF	30.0	240.0	TD5038	EVAP EXH RE-ENTRY	32.6 DEGF	30.0	240.0
# TD5035	EVAP EXH RE-ENTRY	22.3 DEGF	30.0	240.0	# TD5039	EVAP EXH RE-ENTRY	29.6 DEGF	30.0	240.0
					PN5051	H2O TK GAS PRESS	71.1 PSI	-409.5	409.5
PF5052	F-21 DIF PRSS FV 1	14.6 PSID	-409.5	409.5	PF5053	F-21 DIF PRSS FV 2	15.2 PSID	-409.5	409.5
# PW5054	H2O SUP PRSS TO EV	UUU PSIA	-409.5	409.5	PW5055	H2O SUP PRSS TO EV	49.2 PSIA	-409.5	409.5
PF5056	EVAP 1 CHMBR PRSS	8.12 TORR	-40.95	40.95	PF5057	EVAP 2 CHMBR PRSS	8.00 TORR	-40.95	40.95
‡‡ PD5058	EXHT DUCT PRSS DP	0.17 TORR	-40.95	40.95	# PD5065	EXHT DUCT PRSS DP	LLL TORR	-40.95	40.
PD5059	EXHT DUCT PRSS DP	0.17 TORR	-40.95	40.95	PD5066	EXHT DUCT PRSS DP	0.01 TORR	-40.95	40.95
# PD5060	EXHT DUCT PRSS DP	UUU TORR	-40.95	40.95	PD5067	EXHT DUCT PRSS DP	0.01 TORR	-40.95	40.95
PD5061	EXHT DUCT PRSS	2.29 TORR	-40.95	40.95	PD5068	EXHT DUCT PRSS DP	0.01 TORR	-40.95	40.95
PD5062	EXHT DUCT PRSS	4.40 TORR	-40.95	40.95	PD5069	EXHT DUCT PRSS DP	0.01 TORR	-40.95	40.95
PD5063	EXHT DUCT PRSS	7.97 TORR	-40.95	40.95	# PD5070	EXHT DUCT PRSS DP	UUU TORR	-40.95	40.95
PD5064	EXHT DUCT PRSS	0.001 TORR	-40.095	40.095	PD5071	EXHT DUCT PRSS DP	0.001 TORR	-40.095	40.095
‡‡					FW5081	TOT H2O FLO TO EVP	97.9 PPH	-409.5	409
FW5082	H2O FLO TO FL EVAP	48.9 PPH	-409.5	409.5	FW5083	H2O FLO TO FL EVAP	49.2 PPH	-409.5	409.5
					WT5091	H2O TANK WEIGHT	116.8 LBS	-409.5	409.5
‡‡ HI5170	TOP OFF DUCT HTR 1	- 0.01 AMPS	-40.95	40.95	HI5172	TOP OFF DUCT HTR 3	0.01 AMPS	-40.95	40.
HI5171	TOP OFF DUCT HTR 2	0.00 AMPS	-40.95	40.95	HI5173	TOP OFF DUCT HTR 4	- 0.04 AMPS	-40.95	40.95
‡‡ HI5174	R-ETY DT HTR PWR 1	2.95 AMPS	-40.95	40.95	HI5178	R-ETY DT HTR PWR 3	1.51 AMPS	-40.95	40.
HI5175	R-ETY DT HTR PWR 2	2.87 AMPS	-40.95	40.95					
‡‡ HI5176	S S NOZZLE HTR	0.27 AMPS	-40.95	40.95	HI5177	S S NOZZLE HTR	0.27 AMPS	-40.95	40.
‡‡ FW5643	HI FL TO PRI VALV	2751 PPH	- 4095	4095	FW5649	HI FLOW TO SEC PNL	2759 PPH	- 4095	40
					FW5560	F21 TOTAL FLOW	5.54 KPPH	-40.95	40.95

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-MID-	--DESCRIPTION--	--VALUE--	----LIMITS----	-MID-	--DESCRIPTION--	--VALUE--	----LIMITS----
ZH5211	INST HT REJCT EV 1	40.1 KBTU	-409.5 409.5	ZH5212	INST HT REJCT EV 2	46.5 KBTU	-409.5 409
				ZH5213	INSTANT HEAT REJCT	86.6 KBTU	-409.5 409.5
ZH5221	TOT HT REJCT EVP 1	28.2 KBTU	-409.5 409.5	ZH5222	TOT HT REJCT EVP 2	30.8 KBTU	-409.5 409
				ZH5223	TOT HEAT REJCT	59.1 KBTU	-409.5 409.5
ZW5231	TOT WATR FLW EV 1	30.4 LBS	-409.5 409.5	ZW5232	TOT WATR FLW EV 2	30.7 LBS	-409.5 409
				ZW5233	TOT WATR FLW	61.1 LBS	-409.5 409.5
				ZW5234	WATR TNK DIFF WT	54.7 LBS	-409.5 409.5
* ZE5231	SIM EVP TOT EVP 1	36.8 MIN	-409.5 409.5	* ZE5232	SIM EVP TOT EVP 2	36.8 MIN	-409.5 409.5
				* ZE5234	TOTAL TEST TIME	37.0 MIN	-409.5 409.5
ZH5241	AVG HT LOAD EVP 1A	45.8 KBTU	-409.5 409.5	ZH5242	AVG HT LOAD EVP 2A	50.0 KBTU	-409.5 409
				ZH5243	AVG HT LOAD A	95.8 KBTU	-409.5 409.5
ZH5251	AVG HT LOAD EVP 1B	50.0 KBTU	-409.5 409.5	ZH5252	AVG HT LOAD EVP 2B	49.8 KBTU	-409.5 409
				ZH5253	AVG HT LOAD B	99.8 KBTU	-409.5 409.5
ZF5261	AVG WATR USE EV 1	49.3 LBSH	-409.5 409.5	ZF5262	AVG WATR USE EV 2	49.8 LBSH	-409.5 409
				ZF5263	AVG WATR USE A	99.1 LBSH	-409.5 409.5
				ZF5264	AVG WATR USE B	95.3 LBSH	-409.5 409.5
ZH5271	AVG ENT CHNG EV 1	930 BTUP	- 4095 4095	ZH5272	AVG ENT CHNG EV 2	1004 BTUP	- 4095 40
				ZH5273	AVG ENTP CHNG A	967 BTUP	- 4095 4095
				ZH5281	AVG ENTP CHNG B	1004 BTUP	- 4095 4095
ZT5301	MIN F-21 OUT TEM 1	67.9 DEGF	-409.5 409.5	ZT5302	MIN F-21 OUT TEM 2	69.9 DEGF	-409.5 409
# ZT5311	MAX F-21 OUT TEM 1	RRR DEGF	-409.5 409.5	# ZT5312	MAX F-21 OUT TEM 2	RRR DEGF	-409.5 409.5
ZH5321	TP-OFF DT HTR PWR 1	0.0 WATT	-409.5 409.5	ZH5351	TP-OFF DUCT 1 AVG	48.2 DEGF	-409.5 409
ZH5322	TP-OFF DT HTR PWR 2	0.0 WATT	-409.5 409.5	ZH5352	TP-OFF DUCT 2 AVG	50.5 DEGF	-409.5 409.5
ZH5323	TP-OFF DT HTR PWR 3	0.0 WATT	-409.5 409.5	ZH5353	TP-OFF DUCT 3 AVG	85.0 DEGF	-409.5 409.5
ZH5324	TP-OFF DT HTR PWR 4	0.0 WATT	-409.5 409.5	ZH5354	TP-OFF DUCT 4 AVG	68.6 DEGF	-409.5 409.5
ZH5331	R-ETRY DT HTR PWR 1	127.7 WATT	-409.5 409.5	ZH5355	R-ETRY DUCT 1 AVG	67.8 DEGF	-409.5 409.5
ZH5332	R-ETRY DT HTR PWR 2	100.5 WATT	-409.5 409.5	ZH5356	R-ETRY DUCT 2 AVG	52.0 DEGF	-409.5 409.5
ZH5333	R-ETRY DT HTR PWR 3	69.7 WATT	-409.5 409.5	ZH5359	R-ETRY DUCT 3 AVG	35.3 DEGF	-409.5 409.5
ZH5341	S S NOZ HTR PWR	19.4 WATT	-409.5 409.5	ZH5357	SS NOZZLE 1 AVG	127.4 DEGF	-409.5 409.5
ZH5342	S S NOZ HTR PWR	19.4 WATT	-409.5 409.5	ZH5358	SS NOZZLE 2 AVG	101.1 DEGF	-409.5 409.5
TM5403	MSFC ASPS TEMP 1	54.6 DEGF	-409.5 409.5	TM5404	MSFC ASPS TEMP 2	47.2 DEGF	-409.5 409
* TF5501	P FLT CONT VLV IN	LLL DEGF	-409.5 409.5	* TF5506	P FLT CONT VLV IN	110.4 DEGF	-409.5 409.5
* TF5524	P CON OUT MIX CH	UUU DEGF	-409.5 409.5	* TF5530	P CON OUT MIX CH	UUU DEGF	-409.5 409.5
* TF5529	P CON OUT MIX CH	UUU DEGF	-409.5 409.5	* TF5531	S CON OUT MIX CH	UUU DEGF	-409.5 409.5
FH5643	HI FLO TO PRI VALV	2751 PPH	- 4095 4095	FH5644	HI FLOW TO SEC PNL	2759 PPH	- 4095 40

	DESCRIPTION	VALUE	LIMITS		
	TF5001 F-21 IN TO EVAP 1	137.4 DEGF	-409.5	409.5	
	TF5002 F-21 L TO EVAP 1	139.4 DEGF	-409.5	409.5	
	TF5003 F-21 OUT OF EVAP 1	72.4 DEGF	-409.5	409.5	
	TF5004 F-21 OUT OF EVAP 1	73.9 DEGF	-409.5	409.5	
	TW5010 H2O IN TO EVAP 1	105.1 DEGF	-409.5	409.5	
	TW5011 H2O IN TO EVAP 1	105.1 DEGF	-409.5	409.5	
	TF5007 F-21 IN TO EVAP 2	138.8 DEGF	-409.5	409	
	TF5008 F-21 L TO EVAP 2	139.8 DEGF	-409.5	409.5	
	TF5009 F-21 OUT OF EVAP 2	69.0 DEGF	-409.5	409.5	
	TF5010 F-21 OUT OF EVAP 2	69.0 DEGF	-409.5	409.5	
	TW5011 H2O IN TO EVAP 2	105.3 DEGF	-409.5	409.5	
	TW5012 H2O IN TO EVAP 2	105.1 DEGF	-409.5	409.5	
	TW5011 H2O IN TO EVAP 2	105.9 DEGF	-409.5	409.5	
	TW5012 H2O IN TO EVAP 2	106.1 DEGF	-409.5	409.5	
	TD5013 EVAP EXH TURBOFF DT	101.4 DEGF	30.0	240.0	
	TD5014 EVAP EXH TURBOFF DT	49.3 DEGF	30.0	240.0	
	TD5015 EVAP EXH TURBOFF DT	137.0 DEGF	30.0	240.0	
	TD5016 EVAP EXH TURBOFF DT	91.1 DEGF	30.0	240.0	
	TD5017 EVAP EXH TURBOFF DT	86.7 DEGF	30.0	240	
#	TD5018 EVAP EXH TURBOFF DT	24.7 DEGF	30.0	240.0	
#	TD5019 EVAP EXH TURBOFF DT	13.4 DEGF	30.0	240.0	
	TD5020 EVAP EXH TURBOFF DT	35.6 DEGF	30.0	240.0	
#	TD5021 EVAP EXH TURBOFF DT	111. DEGF	30.0	240.0	
	TD5022 EVAP EXH TURBOFF DT	42.6 DEGF	30.0	240.0	
	TD5023 EVAP RE-ENTRY DUCT	47.4 DEGF	30.0	240.0	
	TD5024 EVAP RE-ENTRY DUCT	54.0 DEGF	30.0	240	
	TD5025 EVAP RE-ENTRY DUCT	33.9 DEGF	30.0	240.0	
	TD5026 EVAP RE-ENTRY DUCT	44.0 DEGF	30.0	240.0	
	TD5027 EVAP RE-ENTRY DUCT	58.1 DEGF	30.0	240.0	
	TD5028 EVAP RE-ENTRY DUCT	54.0 DEGF	30.0	240.0	
	TD5029 EVAP RE-ENTRY DUCT	49.7 DEGF	30.0	240.0	
	TD5031 EVAP RE-ENTRY DUCT	49.7 DEGF	30.0	240.0	
	TD5032 EVAP EXH RE-ENTRY	48.3 DEGF	30.0	240.0	
	TD5033 EVAP EXH RE-ENTRY	44.3 DEGF	30.0	240.0	
	TD5034 EVAP EXH RE-ENTRY	35.4 DEGF	30.0	240.0	
	TD5035 EVAP EXH RE-ENTRY	32.5 DEGF	30.0	240.0	
	TD5036 EVAP EXH RE-ENTRY	51.2 DEGF	30.0	240.0	
	TD5037 EVAP EXH RE-ENTRY	184.9 DEGF	30.0	240.0	
	TD5038 EVAP EXH RE-ENTRY	164.7 DEGF	30.0	240.0	
	TD5039 EVAP EXH RE-ENTRY	139.4 DEGF	30.0	240.0	
	PF5052 F-21 DIF PRSS EV 1	14.9 PSID	-409.5	409.5	
#	PW5054 H2O SUP PRSS TO EV	000 PSIA	-409.5	409.5	
	PE5056 EVAP 1 CHMBR PRSS	0.22 TORR	-40.95	40.95	
#	PD5058 EXHT DUCT PRSS DP	000 TORR	-40.95	40.95	
	PD5059 EXHT DUCT PRSS DP	0.49 TORR	-40.95	40.95	
	PD5060 EXHT DUCT PRSS	3.11 TORR	-40.95	40.95	
	PD5062 EXHT DUCT PRSS	0.22 TORR	-40.95	40.95	
	PD5063 EXHT DUCT PRSS	0.22 TORR	-40.95	40.95	
	PD5064 EXHT DUCT PRSS	0.001 TORR	-4.095	4.095	
	PW5082 H2O FLO TO FL EVAP	48.9 PPH	-409.5	409.5	
	HI5170 TOP OFF DUCT HTR 1	1.96 AMPS	-40.95	40.95	
	HI5171 TOP OFF DUCT HTR 2	1.78 AMPS	-40.95	40.95	
	HTR174 R-ETY DT HTR PWR 1	0.05 AMPS	-40.95	40.95	
	HI5175 R-ETY DT HTR PWR 2	0.01 AMPS	-40.95	40.95	
	HI5176 S S NOZZLE HTR	0.26 AMPS	-40.95	40.95	
	FW5643 HI FL TO PRI VALV	2751 PPH	-4095	4095	
	PN5051 H2O TK GN2 PRESS	1000 PSI	-409.5	409	
	PF5053 F-21 DIF PRSS EV 2	15.4 PSID	-409.5	409.5	
#	PW5055 H2O SUP PRSS TO EV	000 PSIA	-409.5	409.5	
	PE5057 EVAP 2 CHMBR PRSS	0.22 TORR	-40.95	40.95	
#	PD5065 EXHT DUCT PRSS DP	000 TORR	-40.95	40.9	
	PD5066 EXHT DUCT PRSS DP	0.01 TORR	-40.95	40.95	
	PD5067 EXHT DUCT PRSS DP	0.01 TORR	-40.95	40.95	
	PD5068 EXHT DUCT PRSS DP	0.01 TORR	-40.95	40.95	
	PD5069 EXHT DUCT PRSS DP	0.01 TORR	-40.95	40.95	
	PD5070 EXHT DUCT PRSS DP	0.67 TORR	-40.95	40.95	
	PD5071 EXHT DUCT PRSS DP	0.001 TORR	-4.095	4.095	
	FW5081 TOT H2O FLO TO EVP	98.8 PPH	-409.5	409	
	FW5083 H2O FLO TO FL EVAP	49.0 PPH	-409.5	409.5	
	WT5091 H2O TANK WEIGHT	88.3 LBS	-409.5	409.5	
	HI5172 TOP OFF DUCT HTR 3	2.58 AMPS	-40.95	40.	
	HI5173 TOP OFF DUCT HTR 4	2.47 AMPS	-40.95	40.95	
	HI5174 R-ETY DT HTR PWR 3	0.02 AMPS	-40.95	40.	
	HI5177 S S NOZZLE HTR	0.32 AMPS	-40.95	40.95	
	FW5649 HI FLOW TO SEC PNL	2744 PPH	-4095	40	
	FW5660 F21 TOTAL FLOW	5.6A KPPH	-40.95	40.95	

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	DESCRIPTION	VALUE	LIMITS			DESCRIPTION	VALUE	LIMITS	
	TF5006 F-21 IN TO EVAP 1	139.3 DEGF	-409.5	409.5		TF5007 F-21 IN TO EVAP 2	134.0 DEGF	-409.5	409
	TF5008 F-21 IN TO EVAP 1	135.1 DEGF	-409.5	409.5		TF5008 F-21 IN TO EVAP 2	136.0 DEGF	-409.5	409.5
	TF5009 F-21 OUT OF EVAP 1	70.4 DEGF	-409.5	409.5		TF5009 F-21 OUT OF EVAP 2	65.3 DEGF	-409.5	409.5
	TF5010 F-21 OUT OF EVAP 1	70.4 DEGF	-409.5	409.5		TF5010 F-21 OUT OF EVAP 2	66.8 DEGF	-409.5	409.5
	TA5011 H2O IN TO EVAP 1	99.7 DEGF	-409.5	409.5		TA5011 H2O IN TO EVAP 2	101.6 DEGF	-409.5	409.5
	TA5012 H2O IN TO EVAP 1	99.7 DEGF	-409.5	409.5		TA5012 H2O IN TO EVAP 2	100.4 DEGF	-409.5	409.5
	TA5011 H2O IN TO EVAP 2	101.5 DEGF	-409.5	409.5		TD5017 EVAP EXH TURBOFF DT	84.4 DEGF	30.0	240.0
	TA5012 H2O IN TO EVAP 2	100.0 DEGF	-409.5	409.5	#	TD5018 EVAP EXH TURBOFF DT	- 10.7 DEGF	30.0	240.0
	TD5013 EVAP EXH TURBOFF DT	43.8 DEGF	30.0	240.0	#	TD5019 EVAP EXH TURBOFF DT	- 37.4 DEGF	30.0	240.0
	TD5014 EVAP EXH TURBOFF DT	73.4 DEGF	30.0	240.0		TD5020 EVAP EXH TURBOFF DT	72.3 DEGF	30.0	240.0
#	TD5015 EVAP EXH TURBOFF DT	- 4.2 DEGF	30.0	240.0	#	TD5021 EVAP EXH TURBOFF DT	LLL DEGF	30.0	240.0
	TD5016 EVAP EXH TURBOFF DT	48.4 DEGF	30.0	240.0	#	TD5022 EVAP EXH TURBOFF DT	12.0 DEGF	30.0	240.0
	TD5023 EVAP RE-ENTRY DUCT	85.7 DEGF	30.0	240.0		TD5028 EVAP RE-ENTRY DUCT	54.0 DEGF	30.0	240
	TD5024 EVAP RE-ENTRY DUCT	89.7 DEGF	30.0	240.0		TD5029 EVAP RE-ENTRY DUCT	55.4 DEGF	30.0	240.0
#	TD5025 EVAP RE-ENTRY DUCT	20.9 DEGF	30.0	240.		TD5030 EVAP RE-ENTRY DUCT	54.9 DEGF	30.0	240.0
#	TD5026 EVAP RE-ENTRY DUCT	14.9 DEGF	30.0	240.0		TD5031 EVAP RE-ENTRY DUCT	55.4 DEGF	30.0	240.0
	TD5027 EVAP RE-ENTRY DUCT	60.9 DEGF	30.0	240.0					
	TD5032 EVAP EXH RE-ENTRY	52.4 DEGF	30.0	240.0		TD5038 EVAP EXH RE-ENTRY	55.4 DEGF	30.0	240.
	TD5033 EVAP EXH RE-ENTRY	52.0 DEGF	30.0	240.0	#	TD5037 EVAP EXH RE-ENTRY	0.1 DEGF	30.0	240.0
	TD5034 EVAP EXH RE-ENTRY	42.3 DEGF	30.0	240.0	#	TD5034 EVAP EXH RE-ENTRY	- 16.9 DEGF	30.0	240.0
	TD5035 EVAP EXH RE-ENTRY	41.1 DEGF	30.0	240.0	#	TD5039 EVAP EXH RE-ENTRY	- 12.3 DEGF	30.0	240.0
						PW5051 H2O TK GND PRESS	87.2 PSI	-409.5	409
	PF5052 F-21 DIF PRSS EV 1	14.8 PSID	-409.5	409.5		PF5053 F-21 DIF PRSS EV 2	15.6 PSID	-409.5	409.5
#	PW5054 H2O SUP PRSS TO EV	000 PSIA	-409.5	409.5	#	PW5055 H2O SUP PRSS TO EV	000 PSIA	-409.5	409.5
	PE5056 EVAP 1 CHMBR PRSS	9.80 TORR	-40.95	40.95		PE5057 EVAP 2 CHMBR PRSS	9.59 TORR	-40.95	40.95
	PD5058 EXHT DUCT PRSS DP	000 TORR	-40.95	40.95		PD5065 EXHT DUCT PRSS DP	0.53 TORR	-40.95	40.9
#	PD5059 EXHT DUCT PRSS DP	000 TORR	-40.95	40.95		PD5066 EXHT DUCT PRSS DP	0.01 TORR	-40.95	40.95
	PD5060 EXHT DUCT PRSS DP	0.56 TORR	-40.95	40.95		PD5067 EXHT DUCT PRSS DP	0.01 TORR	-40.95	40.95
	PD5061 EXHT DUCT PRSS	1.39 TORR	-40.95	40.95		PD5068 EXHT DUCT PRSS DP	0.01 TORR	-40.95	40.95
	PD5062 EXHT DUCT PRSS	4.05 TORR	-40.95	40.95		PD5069 EXHT DUCT PRSS DP	0.01 TORR	-40.95	40.95
	PD5063 EXHT DUCT PRSS	3.58 TORR	-40.95	40.95		PD5070 EXHT DUCT PRSS DP	0.12 TORR	-40.95	40.95
	PD5064 EXHT DUCT PRSS	0.001 TORR	-4.095	4.095		PD5071 EXHT DUCT PRSS DP	0.001 TORR	-4.095	4.095
	FW5082 H2O FLO TO FL EVAP	49.6 PPH	-409.5	409.5		FW5081 TOT H2O FLO TO EVP	98.6 PPH	-409.5	409.
						FW5083 H2O FLO TO FL EVAP	49.4 PPH	-409.5	409.5
						WT5091 H2O TANK WEIGHT	49.8 LBS	-409.5	409.5
	HI5170 TOP OFF DUCT HTR 1	- 0.01 AMPS	-40.95	40.95		HI5172 TOP OFF DUC. HTR 3	- 0.01 AMPS	-40.95	40.9
	HI5171 TOP OFF DUCT HTR 2	0.57 AMPS	-40.95	40.95		HI5173 TOP OFF DUCT HTR 4	- 0.02 AMPS	-40.95	40.95
	HI5174 R-ETY DT HTR PWR 1	3.66 AMPS	-40.95	40.95		HI5178 R-ETY DT HTR PWR 3	1.03 AMPS	-40.95	40.9
	HI5175 R-ETY DT HTR PWR 2	3.52 AMPS	-40.95	40.95					
	HI5176 S S NOZZLE HTR	0.26 AMPS	-40.95	40.95		HI5177 S S NOZZLE HTR	0.27 AMPS	-40.95	40.9
	FW5443 HI FL TO PRT VALV	2764 PPH	- 4095	4095		FW5649 HI FLOW TO SEC PNL	2746 PPH	- 4095	409
						FW5660 F21 TOTAL FLOW	5.48 KPPH	-40.95	40.95

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	ZH5201 TOT HT REJCT EV 1	46.4 KBTU	=409.5	409.5	ZH5202 TOT HT REJCT EV 2	46.4 KBTU	=409.5 409
					ZH5203 INSTANT HEAT REJCT	94.8 KBTU	=409.5 409.5
	ZH5211 TOT HT REJCT EVP 1	36.7 KBTU	=409.5	409.5	ZH5212 TOT HT REJCT EVP 2	38.6 KBTU	=409.5 409
					ZH5213 TOT HT REJCT	75.3 KBTU	=409.5 409.5
	ZH5221 TOT WATR FLW EV 1	39.1 LBS	=409.5	409.5	ZH5222 TOT WATR FLW EV 2	39.2 LBS	=409.5 409.5
					ZH5223 TOT WATR FLW	78.3 LBS	=409.5 409.5
					ZH5224 WATR FLW DIFF PT	74.6 LBS	=409.5 409.5
	ZH5231 SIG EVE TOT EVP 1	47.3 MIN	=409.5	409.5	ZH5232 SIG EVE TOT EVP 2	47.3 MIN	=409.5 409
					ZH5234 TOTAL TEST TIME	47.3 MIN	=409.5 409.5
	ZH5241 AVG HT LOAD EVP 1A	46.6 KBTU	=409.5	409.5	ZH5242 AVG HT LOAD EVP 2A	49.0 KBTU	=409.5 409.
					ZH5243 AVG HT LOAD A	95.6 KBTU	=409.5 409.5
	ZH5251 AVG HT LOAD EVP 1B	50.0 KBTU	=409.5	409.5	ZH5252 AVG HT LOAD EVP 2B	50.0 KBTU	=409.5 409.
					ZH5253 AVG HT LOAD B	100.0 KBTU	=409.5 409.5
	ZH5261 AVG WATR USE EV 1	49.6 LBSM	=409.5	409.5	ZH5262 AVG WATR USE EV 2	48.7 LBSM	=409.5 409
					ZH5263 AVG WATR USE A	98.3 LBSM	=409.5 409.5
					ZH5264 AVG WATR USE B	97.1 LBSM	=409.5 409.5
	ZH5271 AVG ENT CHNG EV 1	940 BTUP	= 4095	4095	ZH5272 AVG ENT CHNG EV 2	985 BTUP	= 4095 409
					ZH5273 AVG ENTP CHNG A	962 BTUP	= 4095 4095
					ZH5281 AVG ENTP CHNG H	984 BTUP	= 4095 4095
	ZH5301 MIN F=21 OUT TEM 1	68.9 DEGF	=409.5	409.5	ZH5302 MIN F=21 OUT TEM 2	69.9 DEGF	=409.5 409
*	ZH5311 MAX F=21 OUT TEM 1	MAX DEGF	=409.5	409.5	* ZH5312 MAX F=21 OUT TEM 2	MAX DEGF	=409.5 409.5
	ZH5321 TP-OFF DT HTR PWR 1	0.0 WATT	=409.5	409.5	ZH5351 TP-OFF DUCT 1 AVG	18.2 DEGF	=409.5 409
	ZH5322 TP-OF DT HTR PWR 2	9.9 WATT	=409.5	409.5	ZH5352 TP-OFF DUCT 2 AVG	27.7 DEGF	=409.5 409.5
	ZH5323 TP-OF DT HTR PWR 3	0.0 WATT	=409.5	409.5	ZH5353 TP-OFF DUCT 3 AVG	54.9 DEGF	=409.5 409.5
	ZH5324 TP-OF DT HTR PWR 4	0.0 WATT	=409.5	409.5	ZH5354 TP-OFF DUCT 4 AVG	48.6 DEGF	=409.5 409.5
	ZH5331 H-ETY DT HTR PWR 1	140.8 WATT	=409.5	409.5	ZH5355 H-ETRY DUCT 1 AVG	58.1 DEGF	=409.5 409.5
	ZH5332 H-ETY DT HTR PWR 2	162.2 WATT	=409.5	409.5	ZH5356 H-ETRY DUCT 2 AVG	54.6 DEGF	=409.5 409.5
	ZH5333 H-ETY DT HTR PWR 3	82.5 WATT	=409.5	409.5	ZH5359 H-ETRY DUCT 3 AVG	45.4 DEGF	=409.5 409.5
	ZH5341 S S NOZ HTR PWR	19.4 WATT	=409.5	409.5	ZH5357 SS NOZZLE 1 AVG	88.4 DEGF	=409.5 409.5
	ZH5342 S S NOZ HTR PWR	19.4 WATT	=409.5	409.5	ZH5358 SS NOZZLE 2 AVG	17.9 DEGF	=409.5 409.5
	TM5403 MSFC ASPS TEMP 1	DEGF	=409.5	409.5	TM5404 MSFC ASPS TEMP 2	22.6 DEGF	=409.5 409
*	TF5541 P FLO CONT VLV IN	DEGF	=409.5	409.5	* TF5404 S FLO CONT VLV IN	144.6 DEGF	=409.5 409.5
*	TF5544 P CON OUT MIX CH	DEGF	=409.5	409.5	* TF5530 S CON OUT MIX CH	000 DEGF	=409.5 409.5
*	TF5545 P CON OUT MIX CH	000 DEGF	=409.5	409.5	* TF5531 S CON OUT MIX CH	000 DEGF	=409.5 409.5
	FM5643 HI FL TO REI VALV	2764 PPH	= 4095	4095	FM5649 HI FLOW TO SEC PNL	2744 PPH	= 4095 40

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	TF5001 F-21 IN TO EVAP 1	136.0 DEGF	-409.5	409.5	TF5007 F-21 IN TO EVAP 2	136.0 DEGF	-409.5	409.
	TF5002 F-21 IN TO EVAP 1	136.1 DEGF	-409.5	409.5	TF5008 F-21 IN TO EVAP 2	136.3 DEGF	-409.5	409.5
	TF5003 F-21 OUT OF EVAP 1	71.9 DEGF	-409.5	409.5	TF5009 F-21 OUT OF EVAP 2	68.0 DEGF	-409.5	409.5
	TF5004 F-21 OUT OF EVAP 1	71.9 DEGF	-409.5	409.5	TF5010 F-21 OUT OF EVAP 2	67.9 DEGF	-409.	409.5
	TW5005 H2O IN TO EVAP 1	95.9 DEGF	-409.5	409.5	TW5011 H2O IN TO EVAP 2	97.8 DEGF	-409.5	409.5
	TW5006 H2O IN TO EVAP 1	95.9 DEGF	-409.5	409.5	TW5012 H2O IN TO EVAP 2	97.8 DEGF	-409.5	409.5
	TW5011 H2O IN TO EVAP 2	97.8 DEGF	-409.5	409.5	TD5017 EVAP EXH TURNOFF DT	80.7 DEGF	30.0	240
	TW5012 H2O IN TO EVAP 2	97.8 DEGF	-409.5	409.5	# TD5018 EVAP EXH TURNOFF DT	= 42.2 DEGF	30.0	240.0
	TD5013 EVAP EXH TURNOFF DT	103.1 DEGF	30.0	240.0	# TD5019 EVAP EXH TURNOFF DT	= 67.0 DEGF	30.0	240.0
	TD5014 EVAP EXH TURNOFF DT	81.7 DEGF	30.0	240.0	TD5020 EVAP EXH TURNOFF DT	35.4 DEGF	30.0	240.0
#	TD5015 EVAP EXH TURNOFF DT	= 9.2 DEGF	30.0	240.0	# TD5021 EVAP EXH TURNOFF DT	LLI DEGF	30.0	240.0
	TD5016 EVAP EXH TURNOFF DT	101.8 DEGF	30.0	240.0	# TD5022 EVAP EXH TURNOFF DT	= 7.4 DEGF	30.0	240.0
	TD5023 EVAP RE-ENTRY DUCT	51.2 DEGF	30.0	240.0	TD5028 EVAP RE-ENTRY DUCT	51.2 DEGF	30.0	240.
	TD5024 EVAP RE-ENTRY DUCT	54.0 DEGF	30.0	240.0	TD5029 EVAP RE-ENTRY DUCT	51.2 DEGF	30.0	240.0
#	TD5025 EVAP RE-ENTRY DUCT	= 12.3 DEGF	30.0	240.0	TD5030 EVAP RE-ENTRY DUCT	49.7 DEGF	30.0	240.0
#	TD5026 EVAP RE-ENTRY DUCT	= 10.7 DEGF	30.0	240.0	TD5031 EVAP RE-ENTRY DUCT	51.2 DEGF	30.0	240.0
	TD5027 EVAP RE-ENTRY DUCT	54.1 DEGF	30.0	240.0				
	TD5032 EVAP EXH RE-ENTRY	48.3 DEGF	30.0	240.0	TD5036 EVAP EXH RE-ENTRY	52.4 DEGF	30.0	240.
	TD5033 EVAP EXH RE-ENTRY	48.3 DEGF	30.0	240.0	# TD5037 EVAP EXH RE-ENTRY	17.9 DEGF	30.0	240.0
	TD5034 EVAP EXH RE-ENTRY	36.8 DEGF	30.0	240.0	# TD5034 EVAP EXH RE-ENTRY	3.1 DEGF	30.0	240.0
	TD5035 EVAP EXH RE-ENTRY	36.8 DEGF	30.0	240.0	# TD5034 EVAP EXH RE-ENTRY	= 9.2 DEGF	30.0	240.0
	PF5052 F-21 DIF PRSS EV 1	14.7 PSID	-409.5	409.5	PW5051 H2O TK GN2 PRESS	88.9 PSI	-409.5	409
#	PW5054 H2O SUP PRSS TO EV	000 PSIA	-409.5	409.5	PF5053 F-21 DIF PRSS EV 2	15.7 PSID	-409.5	409.5
	PE5056 EVAP 1 CHMBR PRSS	8.12 TORR	-40.95	40.95	# PW5055 H2O SUP PRSS TO EV	000 PSIA	-409.5	409.5
	PD5064 EXHT DUCT PRSS DP	000 TORR	-40.95	40.95	PE5057 EVAP 2 CHMBR PRSS	8.56 TORR	-40.95	40.95
#	PD5065 EXHT DUCT PRSS DP	000 TORR	-40.95	40.95	PD5065 EXHT DUCT PRSS DP	0.32 TORR	-40.95	40.
	PD5066 EXHT DUCT PRSS DP	0.81 TORR	-40.95	40.95	PD5066 EXHT DUCT PRSS DP	0.01 TORR	-40.95	40.95
	PD5061 EXHT DUCT PRSS	1.47 TORR	-40.95	40.95	PD5067 EXHT DUCT PRSS DP	0.01 TORR	-40.95	40.95
	PD5062 EXHT DUCT PRSS	3.08 TORR	-40.95	40.95	PD5068 EXHT DUCT PRSS DP	0.01 TORR	-40.95	40.95
	PD5063 EXHT DUCT PRSS	2.98 TORR	-40.95	40.95	PD5069 EXHT DUCT PRSS DP	0.01 TORR	-40.95	40.95
	PD5064 EXHT DUCT PRSS	0.001 TORR	-4.095	4.095	PD5070 EXHT DUCT PRSS DP	0.31 TORR	-40.95	40.95
					PD5071 EXHT DUCT PRSS DP	0.001 TORR	-4.095	4.095
	FW5082 H2O FLO TO FL EVAP	48.9 PPH	-409.5	409.5	FW5081 TOT H2O FLO TO EVP	97.2 PPH	-409.5	409
					FW5083 H2O FLO TO FL EVAP	48.9 PPH	-409.5	409.5
					WT5091 H2O TANK WEIGHT	70.6 LBS	-409.5	409.5
	HI5170 TOP OFF DUCT HTR 1	1.69 AMPS	-40.95	40.95	HI5172 TOP OFF DUCT HTR 3	2.66 AMPS	-40.95	40.
	HI5171 TOP OFF DUCT HTR 2	1.83 AMPS	-40.95	40.95	HI5173 TOP OFF DUCT HTR 4	3.09 AMPS	-40.95	40.95
	HI5174 R-ETY DT HTR PWR 1	3.66 AMPS	-40.95	40.95	HI5178 R-ETY DT HTR PWR 3	1.03 AMPS	-40.95	40.9
	HI5175 R-ETY DT HTR PWR 2	3.63 AMPS	-40.95	40.95				
	HI5176 S S NOZZLE HTR	0.20 AMPS	-40.95	40.95	HI5177 S S NOZZLE HTR	0.32 AMPS	-40.95	40.
	FW5648 HI FL TO PNT VALV	2704 PPH	- 4095	4095	FW5649 HI FLOW TO SEC PNL	2749 PPH	- 4095	409
					FW5650 F21 TOTAL FLOW	5.51 KPPH	-40.95	40.95

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**	Z 5201 INST HT DUCT EV 1	46.0 KBTU	-409.5	409.5	Z05202 INST HT DUCT EV 2	44.4 KBTU	-409.5	409
					Z05203 INSTANT HEAT DUCT	94.3 KBTU	-409.5	409.5
**	Z 5211 TOT HT DUCT EVP 1	30.7 KBTU	-409.5	409.5	Z05212 TOT HT DUCT EVP 2	32.2 KBTU	-409.5	409
					Z05213 TOT HT DUCT	63.3 KBTU	-409.5	409.5
**	Z 5221 TOT WATR FLW EV 1	42.3 LBS	-409.5	409.5	Z 5222 TOT WATR FLW EV 2	32.6 LBS	-409.5	409
					Z05223 TOT WATR FLW	64.7 LBS	-409.5	409.5
					Z05224 WATR USE INST DT	62.3 LBS	-409.5	409.5
**	Z5 5231 SIG EVE TOT EVP 1	39.5 MIN	-409.5	409.5	* Z05232 SIG EVE TOT EVP 2	39.5 MIN	-409.5	409.
					* Z05234 TOTAL TEST TIME	39.5 MIN	-409.5	409.5
	Z05241 AVG HT LOAD EVP 1A	46.7 KBTU	-409.5	409.5	Z05242 AVG HT LOAD EVP 2A	49.4 KBTU	-409.5	409.5
					Z05243 AVG HT LOAD A	95.8 KBTU	-409.5	409.5
**	Z 5251 AVG HT LOAD EVP 1B	50.0 KBTU	-409.5	409.5	Z05252 AVG HT LOAD EVP 2B	50.0 KBTU	-409.5	409
					Z05253 AVG HT LOAD B	100.0 KBTU	-409.5	409.5
**	ZF5261 AVG WATR USE EV 1	49.0 LBSH	-409.5	409.5	ZF5262 AVG WATR USE EV 2	49.4 LBSH	-409.5	409
					ZF5263 AVG WATR USE A	98.4 LBSH	-409.5	409.5
					ZF5264 AVG WATR USE B	94.4 LBSH	-409.5	409.5
**	Z-5271 AVG ENT CHNG EV 1	953 BTUP	- 4095	4095	Z05272 AVG ENT CHNG EV 2	992 BTUP	- 4095	40
					Z05273 AVG ENTP CHNG A	973 BTUP	- 4095	4095
					Z05281 AVG ENTP CHNG B	1011 BTUP	- 4095	4095
*	ZT5301 MIN F-21 OUT TEM 1	68.9 DEGF	-409.5	409.5	ZT5302 MIN F-21 OUT TEM 2	65.9 DEGF	-409.5	409.
#	ZT5311 MAX F-21 OUT TEM 1	888 DEGF	-409.5	409.5	# ZT5312 MAX F-21 OUT TEM 2	888 DEGF	-409.5	409.5
**	Z 5321 TP-OFF DT HTR PWR 1	101.3 WATT	-409.5	409.5	Z05351 TP-OFF DUCT 1 AVG	25.2 DEGF	-409.5	409
	Z05322 TP-OF DT HTR PWR 2	100.3 WATT	-409.5	409.5	Z05352 TP-OFF DUCT 2 AVG	36.3 DEGF	-409.5	409.5
	Z05323 TP-OF DT HTR PWR 3	101.4 WATT	-409.5	409.5	Z05353 TP-OFF DUCT 3 AVG	47.1 DEGF	-409.5	409.5
	Z05324 TP-OF DT HTR PWR 4	99.2 WATT	-409.5	409.5	Z05354 TP-OFF DUCT 4 AVG	41.5 DEGF	-409.5	409.5
	Z05331 R-ETY DT HTR PWR 1	149.3 WATT	-409.5	409.5	Z05355 R-ETRY DUCT 1 AVG	52.4 DEGF	-409.5	409.5
	Z05332 R-ETY DT HTR PWR 2	182.1 WATT	-409.5	409.5	Z05356 R-ETRY DUCT 2 AVG	50.2 DEGF	-409.5	409.5
	Z05333 R-ETY DT HTR PWR 3	81.5 WATT	-409.5	409.5	Z05359 R-ETRY DUCT 3 AVG	40.2 DEGF	-409.5	409.5
	Z05341 S S NOZ DT HTR PWR	19.4 WATT	-409.5	409.5	Z05357 SS NOZZLE 1 AVG	52.4 DEGF	-409.5	409.5
	Z05342 S S NOZ DT HTR PWR	27.7 WATT	-409.5	409.5	Z05358 SS NOZZLE 2 AVG	- 11.8 DEGF	-409.5	409.5
*	TM5403 MSFC ASPS TEMP 1	2.0 DEGF	-409.5	409.5	TM5404 MSFC ASPS TEMP 2	- 2.8 DEGF	-409.5	409.
*	TF5601 P FLO CONT VLV IN	LLL DEGF	-409.5	409.5	* TF5606 S FLO CONT VLV IN	19.2 DEGF	-409.5	409.5
*	TF5529 P CON OUT MIX CH	UUU DEGF	-409.5	409.5	* TF5530 S CON OUT MIX CH	UUU DEGF	-409.5	409.5
*	TF5529 P CON OUT MIX CH	UUU DEGF	-409.5	409.5	* TF5531 S CON OUT MIX CH	UUU DEGF	-409.5	409.5
**	FM5643 HI FL TO PRI VALV	2764 PPH	- 4095	4095	FM5644 HI FLOW TO SEC PNL	2759 PPH	- 4095	40

MID	DESCRIPTION	VALUE	LIMITS		
TF5001	F-21 IN TO EVAP 1	134.1 DEGF	-409.5	409.5	
TF5002	F-21 I TO EVAP 1	132.1 DEGF	-409.5	409.5	
TF5003	F-21 OUT OF EVAP 1	69.9 DEGF	-409.5	409.5	
TF5004	F-21 OUT OF EVAP 1	69.9 DEGF	-409.5	409.5	
TW5005	H2O IN TO EVAP 1	102.9 DEGF	-409.5	409.5	
TW5006	H2O IN TO EVAP 1	103.3 DEGF	-409.5	409.5	
TW5011	H2O IN TO EVAP 2	103.3 DEGF	-409.5	409.5	
TW5012	H2O IN TO EVAP 2	103.3 DEGF	-409.5	409.5	
TD5017	EVAP EXH TOPOFF DT	46.4 DEGF	30.0	240	
* TD5018	EVAP EXH TOPOFF DT	- 34.2 DEGF	30.0	240.0	
* TD5019	EVAP EXH TOPOFF DT	- 15.6 DEGF	30.0	240.0	
* TD5020	EVAP EXH TOPOFF DT	29.6 DEGF	30.0	240.0	
* TD5021	EVAP EXH TOPOFF DT	LLL DEGF	30.0	240.0	
* TD5022	EVAP EXH TOPOFF DT	25.3 DEGF	30.0	240.0	
TD5023	EVAP RE-ENTRY DUCT	42.5 DEGF	30.0	240.0	
TD5024	EVAP RE-ENTRY DUCT	49.7 DEGF	30.0	240.0	
TD5025	EVAP RE-ENTRY DUCT	13.4 DEGF	30.0	240.0	
TD5026	EVAP RE-ENTRY DUCT	22.3 DEGF	30.0	240.0	
TD5027	EVAP RE-ENTRY DUCT	38.1 DEGF	30.0	240.0	
TD5028	EVAP RE-ENTRY DUCT	52.6 DEGF	30.0	240.	
TD5029	EVAP RE-ENTRY DUCT	52.4 DEGF	30.0	240.0	
TD5030	EVAP RE-ENTRY DUCT	48.3 DEGF	30.0	240.0	
TD5031	EVAP RE-ENTRY DUCT	44.7 DEGF	30.0	240.0	
TD5032	EVAP EXH RE-ENTRY	46.9 DEGF	30.0	240.0	
TD5033	EVAP EXH RE-ENTRY	48.3 DEGF	30.0	240.0	
TD5034	EVAP EXH RE-ENTRY	38.2 DEGF	30.0	240.0	
TD5035	EVAP EXH RE-ENTRY	22.3 DEGF	30.0	240.0	
TD5036	EVAP EXH RE-ENTRY	49.7 DEGF	30.0	240.	
TD5037	EVAP EXH RE-ENTRY	143.6 DEGF	30.0	240.0	
TD5038	EVAP EXH RE-ENTRY	125.4 DEGF	30.0	240.0	
TD5039	EVAP EXH RE-ENTRY	100.6 DEGF	30.0	240.0	
PF5052	F-21 DIF PRSS EV 1	14.9 PSID	-409.5	409.5	
PW5054	H2O SUP PRSS TO EV	000 PSIA	-409.5	409.5	
PE5056	EVAP 1 CHMBR PRSS	9.10 TORR	-40.95	40.95	
PF5053	F-21 DIF PRSS EV 2	15.6 PSID	-409.5	409.5	
* PW5054	H2O SUP PRSS TO EV	000 PSIA	-409.5	409.5	
* PE5057	EVAP 2 CHMBR PRSS	000 TORR	-40.95	40.95	
* PD5058	EXHT DUCT PRSS DP	000 TORR	-40.95	40.95	
PD5059	EXHT DUCT PRSS DP	000 TORR	-40.95	40.95	
PD5060	EXHT DUCT PRSS DP	0.48 TORR	-40.95	40.95	
PD5061	EXHT DUCT PRSS	3.50 TORR	-40.95	40.95	
PD5062	EXHT DUCT PRSS	9.77 TORR	-40.95	40.95	
PD5063	EXHT DUCT PRSS	8.83 TORR	-40.95	40.95	
PD5064	EXHT DUCT PRSS	0.001 TORR	-4.095	4.095	
* PD5065	EXHT DUCT PRSS DP	LLL TORR	-40.95	40.	
PD5066	EXHT DUCT PRSS DP	0.01 TORR	-40.95	40.95	
PD5067	EXHT DUCT PRSS DP	0.01 TORR	-40.95	40.95	
PD5068	EXHT DUCT PRSS DP	0.01 TORR	-40.95	40.95	
PD5069	EXHT DUCT PRSS DP	0.01 TORR	-40.95	40.95	
PD5070	EXHT DUCT PRSS DP	0.47 TORR	-40.95	40.95	
PD5071	EXHT DUCT PRSS DP	0.001 TORR	-4.095	4.095	
FW5082	H2O FLO TO FL EVAP	49.2 PPH	-409.5	409.5	
FW5081	TOT H2O FLO TO EVP	98.4 PPH	-409.5	409.5	
FW5083	H2O FLO TO FL EVAP	49.9 PPH	-409.5	409.5	
WT5091	H2O TANK WEIGHT	42.1 LBS	-409.5	409.5	
* HI5170	TOP OFF DUCT HTR 1	1.57 AMPS	-40.95	40.95	
HI5171	TOP OFF DUCT HTR 2	1.81 AMPS	-40.95	40.95	
HI5172	TOP OFF DUCT HTR 3	2.40 AMPS	-40.95	40.	
HI5173	TOP OFF DUCT HTR 4	3.00 AMPS	-40.95	40.95	
* HI5174	R-ETY DT HTR PWR 1	1.67 AMPS	-40.95	40.95	
HI5175	R-ETY DT HTR PWR 2	0.42 AMPS	-40.95	40.95	
HI5178	R-ETY DT HTR PWR 3	1.17 AMPS	-40.95	40.	
HI5176	S S NOZZLE HTR	0.28 AMPS	-40.95	40.95	
HI5177	S S NOZZLE HTR	0.39 AMPS	-40.95	40.95	
* FM5643	HI FL TO PRI VALV	2764 PPH	- 4095	4095	
FM5649	HI FLOW TO SEC PNL	2759 PPH	- 4095	40	
FM5660	F21 TOTAL FLOW	5.51 KPPH	-40.95	40.95	

T. P. 59

T. P. 54

AGE 09 CSS 1?/EVAP SCOOP (OUTSE) CHANNEL A GMT 122, 10 HRS, 30 MIN, 01 SEC

	ZQ5201	INST HT REJCT EV 1	45.3 KBTU	-409.5	409.5	ZQ5202	INST HT REJCT EV 2	48.9 KBTU	-409.5 409.
						ZQ5203	INSTANT HEAT REJCT	44.2 KBTU	-409.5 409.5
	ZQ5211	TOT HT REJCT EVP 1	39.3 KBTU	-409.5	409.5	ZQ5212	TOT HT REJCT EVP 2	42.0 KBTU	-409.5 409
						ZQ5213	TOT H REJCT	81.2 KBTU	-409.5 409.5
	ZW5221	TOT WATR FLW EV 1	41.0 LBS	-409.5	409.5	ZW5222	TOT WATR FLW EV 2	42.1 LBS	-409.5 409
						ZW5223	TOT WATR FLW	83.7 LBS	-409.5 409.5
						ZW5224	WATR TNK DIFF WT.	81.9 LBS	-409.5 409.5
•	ZE5231	SIG EVP TOT EVP 1	49.9 MIN	-409.5	409.5	• ZE5232	SIG EVP TOT EVP 2	40.9 MIN	-409.5 409
						• ZE5234	TOTAL TEST TIME	50.0 MIN	-409.5 409.5
	ZQ5241	AVG HT LOAD EVP 1A	47.2 KBTU	-409.5	409.5	ZQ5242	AVG HT LOAD EVP 2A	50.4 KBTU	-409.5 409
						ZQ5243	AVG HT LOAD A	97.6 KBTU	-409.5 409.5
	ZQ5261	AVG HT LOAD EVP 1B	50.0 KBTU	-409.5	409.5	ZQ5252	AVG HT LOAD EVP 2B	50.1 KBTU	-409.5 409.5
						ZQ5253	AVG HT LOAD B	100.1 KBTU	-409.5 409.5
	ZF5261	AVG WATR USE EV 1	50.0 LBSM	-409.5	409.5	ZF5262	AVG WATR USE EV 2	50.6 LBSM	-409.5 409.
						ZF5263	AVG WATR USE A	100.6 LBSM	-409.5 409.5
						ZF5264	AVG WATR USE B	99.7 LBSM	-409.5 409.5
	ZH5271	AVG ENTP CHNG EV 1	944 BTUP	- 4095	4095	ZH5272	AVG ENTP CHNG EV 2	906 BTUP	- 4095 409
						ZH5273	AVG ENTP CHNG A	970 BTUP	- 4095 4095
						ZH5281	AVG ENTP CHNG B	993 BTUP	- 4095 4095
	ZT5301	MIN F-21 DUCT TEM 1	63.9 DEGF	-409.5	409.5	ZT5302	MIN F-21 DUCT TEM 2	51.0 DEGF	-409.5 409.5
#	ZT5311	MAX F-21 DUCT TEM 1	888 DEGF	-409.5	409.5	# ZT5312	MAX F-21 DUCT TEM 2	888 DEGF	-409.5 409.5
	ZQ5321	TP-OFF DT HTR PWR 1	101.0 WATT	-409.5	409.5	ZQ5351	TP-OFF DUCT 1 AVG	102.0 DEGF	-409.5 409
	ZQ5322	TP-OF DT HTR PWR 2	101.4 WATT	-409.5	409.5	ZQ5352	TP-OFF DUCT 2 AVG	114.4 DEGF	-409.5 409.5
	ZQ5323	TP-OF DT HTR PWR 3	101.2 WATT	-409.5	409.5	ZQ5353	TP-OFF DUCT 3 AVG	59.9 DEGF	-409.5 409.5
	ZQ5324	TP-OF DT HTR PWR 4	101.2 WATT	-409.5	409.5	ZQ5354	TP-OFF DUCT 4 AVG	53.8 DEGF	-409.5 409.5
	ZQ5331	R-ETRY DT HTR PWR 1	39.8 WATT	-409.5	409.5	ZQ5355	R-ETRY DUCT 1 AVG	53.3 DEGF	-409.5 409.5
	ZQ5332	R-ETRY DT HTR PWR 2	12.0 WATT	-409.5	409.5	ZQ5356	R-ETRY DUCT 2 AVG	48.8 DEGF	-409.5 409.5
	ZQ5333	R-ETRY DT HTR PWR 3	29.2 WATT	-409.5	409.5	ZQ5359	R-ETRY DUCT 3 AVG	36.3 DEGF	-409.5 409.5
	ZN5341	S S NOZ HTR PWR	22.2 WATT	-409.5	409.5	ZN5357	SS NOZZLE 1 AVG	45.6 DEGF	-409.5 409.5
	ZN5342	S S NOZ HTR PWR	30.5 WATT	-409.5	409.5	ZN5358	SS NOZZLE 2 AVG	17.9 DEGF	-409.5 409.5
	TM5403	MSFC ASPS TEMP 1	- 10.7 DEGF	-409.5	409.5	TM5404	MSFC ASPS TEMP 2	- 31.8 DEGF	-409.5 409.
•	TF5501	P FLO CONT VLV IN	LLL DEGF	-409.5	409.5	• TF5504	S FLO CONT VLV IN	UUU DEGF	-409.5 409.5
•	TF5520	P CON OUT MIX CH	UUU DEGF	-409.5	409.5	• TF5530	S CON OUT MIX CH	UUU DEGF	-409.5 409.5
•		P CON OUT MIX CH	UUU DEGF	-409.5	409.5	• TF5531	S CON OUT MIX CH	UUU DEGF	-409.5 409.5
	FM5443	HI FLOW TO PRT VALV	2764 PPH	- 4095	4095	FM5649	HI FLOW TO SEC PNL	2769 PPH	- 4095 409

66-0

-MID-	---DESCRIPTION----	---VALUE---	----LIMITS----		-MID-	---DESCRIPTION----	---VALUE---	----LIMITS----	
‡	TF5001 F-21 IN TO EVAP 1	136.0 DEGF	-409.5	409.5		TF5007 F-21 IN TO EVAP 2	134.9 DEGF	-409.5	409
	TF5002 F-21 IN TO EVAP 1	134.1 DEGF	-409.5	409.5		TF5008 F-21 IN TO EVAP 2	137.9 DEGF	-409.5	409.5
	TF5003 F-21 OUT OF EVAP 1	72.9 DEGF	-409.5	409.5		TF5009 F-21 OUT OF EVAP 2	66.9 DEGF	-409.5	409.5
	TF5004 F-21 OUT OF EVAP 1	72.9 DEGF	-409.5	409.5		TF5010 F-21 OUT OF EVAP 2	66.9 DEGF	-409.5	409.5
	TW5005 H2O IN TO EVAP 1	105.9 DEGF	-409.5	409.5		TW5011 H2O IN TO EVAP 2	104.8 DEGF	-409.5	409.5
	TW5006 H2O IN TO EVAP 1	105.9 DEGF	-409.5	409.5		TW5012 H2O IN TO EVAP 2	106.8 DEGF	-409.5	409.5
‡	TW5011 H2O IN TO EVAP 2	106.8 DEGF	-409.5	409.5		TD5017 EVAP EXH TOPOFF DT	81.7 DEGF	30.0	240
	TW5012 H2O IN TO EVAP 2	106.8 DEGF	-409.5	409.5	#	TD5018 EVAP EXH TOPOFF DT	28.2 DEGF	30.0	240.0
	TD5013 EVAP EXH TOPOFF DT	95.1 DEGF	30.0	240.0		TD5019 EVAP EXH TOPOFF DT	32.6 DEGF	30.0	240.0
	TD5014 EVAP EXH TOPOFF DT	72.0 DEGF	30.0	240.0		TD5020 EVAP EXH TOPOFF DT	122.8 DEGF	30.0	240.0
#	TD5015 EVAP EXH TOPOFF DT	26.7 DEGF	30.0	240.0	#	TD5021 EVAP EXH TOPOFF DT	LLL DEGF	30.0	240.0
	TD5016 EVAP EXH TOPOFF DT	69.7 DEGF	30.0	240.0		TD5022 EVAP EXH TOPOFF DT	76.2 DEGF	30.0	240.0
‡	TD5023 EVAP RE-ENTRY DUCT	118.4 DEGF	30.0	240.0		TD5028 EVAP RE-ENTRY DUCT	48.7 DEGF	30.0	240
	TD5024 EVAP RE-ENTRY DUCT	135.8 DEGF	30.0	240.0		TD5029 EVAP RE-ENTRY DUCT	58.1 DEGF	30.0	240.0
	TD5025 EVAP RE-ENTRY DUCT	101.8 DEGF	30.0	240.0		TD5030 EVAP RE-ENTRY DUCT	63.7 DEGF	30.0	240.0
	TD5026 EVAP RE-ENTRY DUCT	97.8 DEGF	30.0	240.0		TD5031 EVAP RE-ENTRY DUCT	56.8 DEGF	30.0	240.0
	TD5027 EVAP RE-ENTRY DUCT	58.1 DEGF	30.0	240.0					
‡	TD5032 EVAP EXH RE-ENTRY	48.3 DEGF	30.0	240.0		TD5036 EVAP EXH RE-ENTRY	51.2 DEGF	30.0	240
	TD5033 EVAP EXH RE-ENTRY	49.7 DEGF	30.0	240.0	#	TD5037 EVAP EXH RE-ENTRY	29.4 DEGF	30.0	240.0
	TD5034 EVAP EXH RE-ENTRY	35.4 DEGF	30.0	240.0	#	TD5038 EVAP EXH RE-ENTRY	25.7 DEGF	30.0	240.0
	TD5035 EVAP EXH RE-ENTRY	31.0 DEGF	30.0	240.0	#	TD5039 EVAP EXH RE-ENTRY	28.2 DEGF	30.0	240.0
‡						PN5051 H2O TK GN2 PRESS	77.1 PSI	-409.5	409
	PF5052 F-21 DIF PRSS EV 1	14.8 PSID	-409.5	409.5		PF5053 F-21 DIF PRSS EV 2	15.3 PSID	-409.5	409.5
#	PA5054 H2O SUP PRSS TO EV	000 PSIA	-409.5	409.5	#	PA5055 H2O SUP PRSS TO EV	000 PSIA	-409.5	409.5
	PE5056 EVAP 1 CHMBR PRSS	8.75 TORR	-40.95	40.95		PE5057 EVAP 2 CHMBR PRSS	8.63 TORR	-40.95	40.95
‡	PD5058 EXHT DUCT PRSS DP	0.35 TORR	-40.95	40.95		PD5065 EXHT DUCT PRSS DP	0.39 TORR	-40.95	40.
	PD5060 EXHT DUCT PRSS DP	0.17 TORR	-40.95	40.95		PD5066 EXHT DUCT PRSS DP	0.01 TORR	-40.95	40.95
	PD5061 EXHT DUCT PRSS DP	0.97 TORR	-40.95	40.95		PD5067 EXHT DUCT PRSS DP	0.01 TORR	-40.95	40.95
	PD5062 EXHT DUCT PRSS	1.63 TORR	-40.95	40.95		PD5068 EXHT DUCT PRSS DP	0.01 TORR	-40.95	40.95
	PD5063 EXHT DUCT PRSS	9.02 TORR	-40.95	40.95		PD5069 EXHT DUCT PRSS DP	0.01 TORR	-40.95	40.95
	PD5064 EXHT DUCT PRSS	8.63 TORR	-40.95	40.95		PD5070 EXHT DUCT PRSS DP	0.74 TORR	-40.95	40.95
	PD5144 EXHT DUCT PRSS	0.001 TORR	-4.095	4.095		PD5071 EXHT DUCT PRSS DP	0.001 TORR	-4.095	4.095
‡						FW5081 TOT H2O FLO TO EVP	97.9 PPH	-409.5	409
	FW5082 H2O FLO TO FL EVAP	48.9 PPH	-409.5	409.5		FW5083 H2O FLO TO FL EVAP	49.2 PPH	-409.5	409.5
						WT5091 H2O TANK WEIGHT	20.8 LBS	-409.5	409.5
‡	HI5170 TOP OFF DUCT HTR 1	0.01 AMPS	-40.95	40.95		HI5172 TOP OFF DUCT HTR 3	0.01 AMPS	-40.95	40.
	HI5171 TOP OFF DUCT HTR 2	0.57 AMPS	-40.95	40.95		HI5173 TOP OFF DUCT HTR 4	0.02 AMPS	-40.95	40.95
‡	HI5174 R-ETY DT HTR PWR 1	2.42 AMPS	-40.95	40.95		HI5178 R-ETY DT HTR PWR 3	1.18 AMPS	-40.95	40.
	HI5175 R-ETY DT HTR PWR 2	2.33 AMPS	-40.95	40.95					
‡	HI5176 S S NOZZLE HTR	0.27 AMPS	-40.95	40.95		HI5177 S S NOZZLE HTR	0.27 AMPS	-40.95	40.9
‡	FW5643 HI FL TO PRI VALV	2764 PPH	-4095	4095		FW5646 HI FLOW TO SEC P	2759 PPH	-4095	40
						FW5660 F21 TOTAL FLOW	.54 KPPH	-40.95	40.95

	-MID-	---DESCRIPTION----	---VALUE---	----LIMITS----		-MID-	---DESCRIPTION----	---VALUE---	----LIMITS----	
‡‡	Z05201	INST HT RJCT EV 1	45.7 KBTU	-409.5 409.5		Z05202	INST HT RJCT EV 2	50.3 KBTU	-409.5 409	
						Z05203	INSTANT HEAT RJCT	96.0 KBTU	-409.5 409.5	
‡‡	Z05211	TOT HT RJCT EVP 1	43.3 KBTU	-409.5 409.5		Z05212	TOT HT RJCT EVP 2	47.2 KBTU	-409.5 409	
						Z05213	TOT HT RJCT	90.5 KBTU	-409.5 409.5	
‡‡	Z05221	TOT WATR FLW EV 1	46.4 LBS	-409.5 409.5		Z05222	TOT WATR FLW EV 2	46.8 LBS	-409.5 409	
						Z05223	TOT WATR FLW	93.3 LBS	-409.5 409.5	
						Z05224	WATR FLW DIFF WT.	90.1 LBS	-409.5 409.5	
‡‡*	Z05231	SIG EVE TOT EVP 1	56.6 MIN	-409.5 409.5	*	Z05232	SIG EVE TOT EVP 2	56.4 MIN	-409.5 409	
					*	Z05234	TOTAL TEST TIME	56.6 MIN	-409.5 409.5	
‡‡	Z05241	AVG HT LOAD EVP 1A	45.9 KBTU	-409.5 409.5		Z05242	AVG HT LOAD EVP 2A	50.0 KBTU	-409.5 409	
						Z05243	AVG HT LOAD A	95.9 KBTU	-409.5 409.5	
	Z05251	AVG HT LOAD EVP 1B	50.0 KBTU	-409.5 409.5		Z05252	AVG HT LOAD EVP 2B	50.0 KBTU	-409.5 409.5	
						Z05253	AVG HT LOAD B	100.0 KBTU	-409.5 409.5	
‡‡	Z05261	AVG WATR USE EV 1	49.2 LBSH	-409.5 409.5		Z05262	AVG WATR USE EV 2	49.4 LBSH	-409.5 409	
						Z05263	AVG WATR USE A	98.8 LBSH	-409.5 409.5	
						Z05264	AVG WATR USE B	95.5 LBSH	-409.5 409.5	
‡‡	Z05271	AVG ENT CHNG EV 1	933 BTUP	- 4095 4095		Z05272	AVG ENT CHNG EV 2	1007 BTUP	- 4095 40	
						Z05273	AVG ENTP CHNG A	971 BTUP	- 4095 4095	
						Z05281	AVG ENTP CHNG B	1006 BTUP	- 4095 4095	
	Z05301	MIN F-21 OUT TEM 1	64.9 DEGF	-409.5 409.5		Z05302	MIN F-21 OUT TEM 2	62.9 DEGF	-409.5 409.5	
*	Z05311	MAX F-21 OUT TEM 1	RRR DEGF	-409.5 409.5	*	Z05312	MAX F-21 OUT TEM 2	RRR DEGF	-409.5 409.5	
‡‡	Z05321	TP-OFF DT HTR PWR 1	0.0 WATT	-409.5 409.5		Z05351	TP-OFF DUCT 1 AVG	42.3 DEGF	-409.5 409	
	Z05322	TP-OFF DT HTR PWR 2	10.0 WATT	-409.5 409.5		Z05352	TP-OFF DUCT 2 AVG	50.6 DEGF	-409.5 409.5	
	Z05323	TP-OFF DT HTR PWR 3	0.0 WATT	-409.5 409.5		Z05353	TP-OFF DUCT 3 AVG	83.0 DEGF	-409.5 409.5	
	Z05324	TP-OFF DT HTR PWR 4	0.0 WATT	-409.5 409.5		Z05354	TP-OFF DUCT 4 AVG	68.0 DEGF	-409.5 409.5	
	Z05331	R-ETRY DT HTR PWR 1	83.8 WATT	-409.5 409.5		Z05355	R-ETRY DUCT 1 AVG	57.4 DEGF	-409.5 409.5	
	Z05332	R-ETRY DT HTR PWR 2	79.9 WATT	-409.5 409.5		Z05356	R-ETRY DUCT 2 AVG	52.1 DEGF	-409.5 409.5	
	Z05333	R-ETRY DT HTR PWR 3	30.7 WATT	-409.5 409.5		Z05357	R-ETRY DUCT 3 AVG	38.7 DEGF	-409.5 409.5	
	Z05341	S S NOZ HTR PWR	19.4 WATT	-409.5 409.5		Z05357	SS NOZZLE 1 AVG	126.1 DEGF	-409.5 409.5	
	Z05342	S S NOZ HTR PWR	22.2 WATT	-409.5 409.5		Z05358	SS NOZZLE 2 AVG	97.8 DEGF	-409.5 409.5	
	TM5403	MSPC ASPS TEMP 1	54.6 DEGF	-409.5 409.5		TM5404	MSPC ASPS TEMP 2	45.7 DEGF	-409.5 409.5	
*	TF5501	P FLO CONT VLV IN	LLL DEGF	-409.5 409.5	*	TF5504	S FLO CONT VLV IN	UUU DEGF	-409.5 409.5	
*	TF5502	P CON OUT MIX CH	UUU DEGF	-409.5 409.5	*	TF5530	S CON OUT MIX CH	UUU DEGF	-409.5 409.5	
*	TF5539	P CON OUT MIX CH	UUU DEGF	-409.5 409.5	*	TF5531	S CON OUT MIX CH	UUU DEGF	-409.5 409.5	
‡‡	F25643	HI FL TO PRI VALV	2764 PPH	- 4095 4095		F25645	HI FLOW TO SEC PNL	2750 PPH	- 4095 40	