

August 28, 1972

SMEAT DAILY REPORT

1 of 3

Number 25

This report covers the period from 0800 August 25, 1972, through 0800 August 28, 1972 (test days 31, 32, and 33).

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X
I. Significant Accomplishments - The SMEAT test program continues to progress on schedule and with reduced number of problems. During this period, the metabolic activity experiment data was further evaluated using conventional lab Douglas bags. In these tests, two subjects exercised on the bicycle ergometer at three exercise rates and the expired gas was collected in the Douglas bags. The results indicated that the respiratory quotient (VCO_2 over VO_2) compared favorably to sea level data. This would indicate that the Skylab metabolic analyzer is providing higher RQ's at altitude than the absolute values. Additional tests are scheduled using a water spirometer to evaluate vital capacity data at altitude. The M171 ergometer was airlocked out of the chamber on Saturday, the new load module installed, calibration will be completed on Monday, and the ergometer will be passed back into the chamber for crew use. The only limitation on crew utilization of the ergometer will be a 30-minute time limit on continuous operation at the maximum work rate of 300 watts. Three M093 vectorcardiogram protocols were successfully completed on Sunday. The crew has reported that the Skylab vacuum cleaner with the Apollo vacuum cleaner brush has a "very satisfactory performance." It is still planned to evaluate a newly designed vacuum cleaner bag sometime this week to determine if a lower Delta p vacuum bag improves the vacuum cleaner performance at altitude. The thermal comfort evaluation was completed on Sunday afternoon. The chamber was maintained at 77°F for approximately four days and the crew accomplished protocols for M171, M092, and M093. The crew did report that subjectively they felt uncomfortable at the elevated temperature and humidity levels. While accomplishing the M171 metabolic activity experiment, the crew did feel somewhat overheated. They did not report any excessive sweating while accomplishing the lower body negative pressure test. The crew's subjective comments on the thermal comfort test are attached.

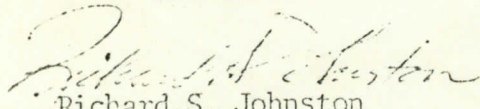
II. Problems

A. Hardware - There were no major new problems reported during this reporting period.

B. Facility - None

C. Procedural - None

III. Crew Health - The crew remains in excellent spirits and health.


Richard S. Johnston
Manager, Test Operations
Management Committee