1. REPORTING INSTALLATION:  Langley Research Center
                          Hampton, Virginia

2. FACILITY NAME:  150 Cubic Foot Space Vacuum Facility

3. LOCATION (if other than in 1. above):  Same as 1.

4. FUNCTIONAL NAME:  Space Vacuum Facility

5. TECHNOLOGICAL AREAS SUPPORTED:  Space environmental effects.

6. NARRATIVE DESCRIPTION OF FACILITY CAPABILITIES & FUNCTIONS:

   This facility comprises an environmental chamber having the following salient provisions:

   (a) Ultimate pressures of $2 \times 10^{-12}$ torr.

   (b) Continuous heat dissipation in the test volume from 1.4 KW at approximately 50K to 10 KW at approximately 80K.

   (c) Cylindrical working volumes ranging from 4 feet in diameter and 6 feet long to 8 feet in diameter and 12 feet long.

   (d) Radiant heat flux levels to approximately 2 1/2 solar constants.

   (e) Feed throats for observation, instrumentation, power, and linear and rotary motion.

   (f) Helium liquefier having a minimum withdraw rate of 80 liters per hour of liquid helium.
6. NARRATIVE DESCRIPTION

- Principle uses: To study the effects of space environment on the properties of materials or the functional and operational characteristics of mechanical or electronic components and systems such as:
  
  (a) The effects of vacuum on the properties of materials and components.
  (b) The effects of low temperature, brought about by the cold thermal sink of space, on the properties of materials and components.
  (c) The effects of high temperature, brought about by solar radiation, on the properties of materials and components.

Application - Space
Category - Space Environmental Chambers

7. POTENTIAL:

8. PLANS:

   CIF Z 3 28 - 1702

9. BLDG. NO. 1236
10. YR. BUILT: 1965**
11. FAC. CAT. CODE: 330-10
12. INITIAL COST: $1,480** K
13. NASA B.O.D. 1965
14. STATUS CODE: Active
15. ACCUM. COST: $1,480** K
16. LIFE EXPECT. Indef.
17. OWNER CODE: NASA
18. OPER. CODE: NASA
19. CONTRACTOR NAME (if contr. oper.):

   ** This apparatus only

20. OTHER SOURCES OF INFO: "A Large Ultra High Vacuum Environmental Chamber with Liquid Helium Cooled Walls, N65-27376, RCA Service Co., April, 1965"

21. COGNIZANT ORGANIZATIONAL COMPONENT: Applied Materials and Physics Division

22. LOCAL OFFICE TO CONTACT FOR FURTHER INFO:
   Chief, Research Models and Facilities Division (Code 56.000)
   Phone: (Area Code 703) 722-7961, extension 4745