

JAN 19 1954

SANDIA SYSTEMATIC DECLASSIFICATION REVIEW	
1 st Review Date: <u>7/23/98</u>	Determination (Check Number):
Authority: <input type="checkbox"/> ADC <input checked="" type="checkbox"/> ADD	1 Classification Reverted to <u>U</u>
Name: <u>W. Payne</u>	2 Contains No DOE Classified Information
2 nd Review Date: <u>7/23/98</u>	3 Coordinate With:
Authority: <u>AD</u>	4 Contains UCAI? <u>Yes</u>
Name: <u>R.B. Crane</u>	0 Comments: <u>OK for release</u>

Case No. 548.00
 Ref. Symbol: 1611-(213)
 Project No. NT-1475
 Completed 9/4/53

MR. S. A. MOORE - 1322

Re: Dust and Sand, Salt Spray, Rain, and Desert Exposure Tests of the XW-7/HJ

Object of Test

The object of these tests was to determine the resistance of the XW-7/HJ in its compartment to certain of the environmental conditions prescribed in SCS-5.

Authorization for Test

These tests were requested by Division 1322 in Work Order Authorizations dated May 13, 14, and 22, and June 19, 1953. Mr. E. G. Madlec was the consultant.

Procedure and Results

The XW-7/HJ (1236 F-M-317) has received new components since the arctic sequence test, the results of which were given in a previous memorandum (ET-1362). This new unit in its compartment was subjected to a 24-hour dust and sand test, a 50-hour salt spray test, a 2-hour rain test, and a 27-day desert exposure test, in accordance with the provisions of SCS-5. After each of the first three tests and three times weekly during the last test, personnel of Division 1322 made an operational check and inspected the XW-7/HJ at the completion of each test. A homemade tester was connected by a multichannel electrical cable to the XW-7/HJ. Twenty-eight volt d-c and 110 volt a-c power was supplied. One minute before the check, power was supplied to the MC-132 and MC-73 motor. At zero time, the circuits which normally would be closed by the MC-234's and MC-235's were closed by hand-operated switches coincidental with the starting of the clock, the MC-44, and the engaging of the clutch of the MC-73. The completion of operation of the MC-44 was indicated by the lighting of a light and by an ohmmeter connected to a resistance which is controlled by a limit switch. At T_1 , the operation of the MC-134 is initiated by the MC-73 via the SA-15's. At T_2 the MC-73 fires the MC-132 which is indicated by the flashing of a light in the tester. Switches are provided for resetting the MC-44 and MC-73.

During the many repetitions of this operational check, the light which indicated the operation of the thyatron sometimes failed to light at the first attempt. Whether this was due to the unit being tested or the testing equipment was not apparent. Personnel of Division 1322 removed the unit from the room during the desert exposure test and replaced a fuse in the circuit to the tizer clutch. No other electrical difficulty was encountered. Physical examination of the XW-7/HJ at the conclusion of the dust and sand, salt spray,

CDL No. _____
 ACCOUNTING CARD _____
 FILE No. XW-7/HJ

SANDIA SYSTEMATIC DECLASSIFICATION REVIEW DOWNGRADING OR DECLASSIFICATION STAMP	
CLASSIFICATION CHANGED TO: <u>U</u>	AUTHORITY: <u>R. B. Crane</u>
PERSON CHANGING MARKING & DATE: <u>Emelda Selch 7/29/98</u>	RECORD ID: <u>98SN3085</u>
PERSON VERIFYING MARKING & DATE: <u>W.C. Lane 7/30/98</u>	DATED: <u>7/23/98</u>

UNCLASSIFIED

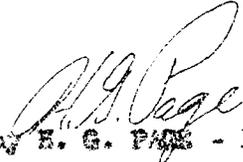
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rain, and desert exposure tests revealed no damage. Slight layers of dust and salt were found in the inside of the compartment and on the top of the components. No water was found inside the compartment. Nothing was found inside the components. On the outside of the compartment, slight scattered corrosion was found on the metallic surfaces where the paint had chipped away. Five copper-constantan thermocouples and a Brown recorder (S-32341) were used to monitor the temperature during the desert exposure test. A typical 24-hour record of the temperature curves and the key to the thermocouple locations are shown in Fig. 1. No thermocouples were used during the other tests.



Test Conducted by E. G. PAGE - 1611

Original Signed By
R. L. WAGAR

Approved by R. L. WAGAR - 1611

REF:1611:7p

DISTRIBUTION:

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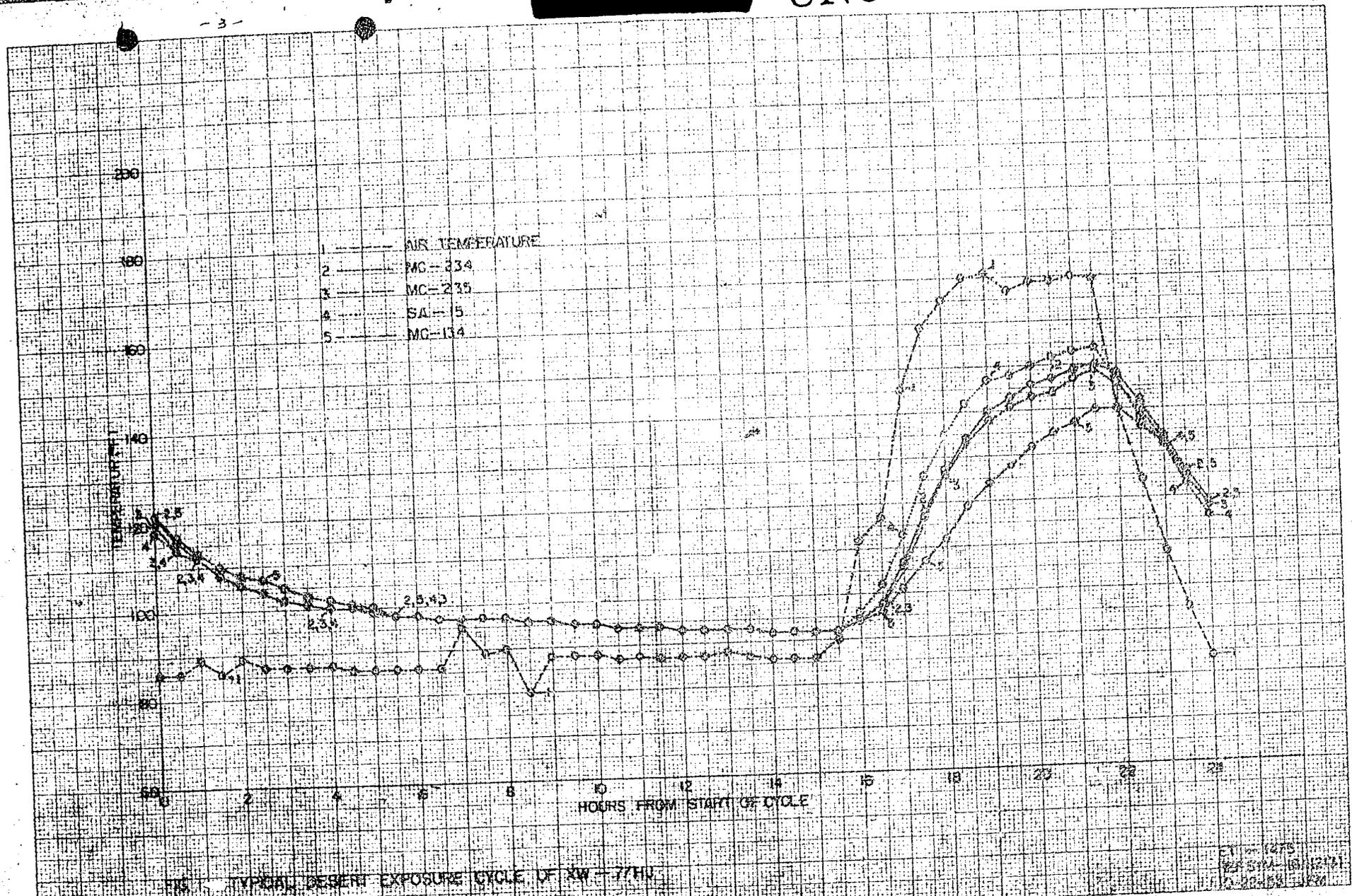


FIG 7. TYPICAL DESERT EXPOSURE CYCLE OF XW-77/HV

ET 100-6275
2757A-10/12/71
2-20-58-124