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TEMPERATURE TESTING OF
TWO B54-1 (SADM'S) (U)

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CENTRAL TECH FILE

Organization 7300 Environmental Test Report

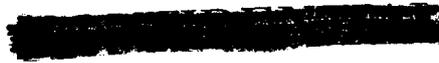
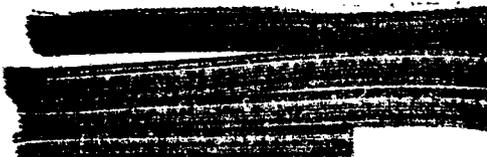
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SANDIA SYSTEMATIC DECLASSIFICATION REVIEW	
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Name: <u>W.C. Payne</u>	Reason for Change:
	Classification Authority:
	Date:



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TEMPERATURE TESTING OF
TWO B54-1 (SADM'S) (U)

Introduction

The object of these tests was to provide several SADM Confirmation Test Program (CTP) committee members the opportunity to work with the B54-1 (SADM) at both STS operational temperature extremes, in the dark, and under one foot of water.

The Two B54-1 (SADM's), CTP Unit 10 (Serial No. 957) and CTP Unit 12 (Serial No. 220), were subjected to the following environments:

1. Pre-test checkout at low temperature (-40°F)
2. Pre-test checkout at high temperature (+125°F)

CTP operational tests were then conducted as follows:

1. Unit 10 at low temperature (-40°F) and under water
2. Unit 12 at high temperature (+125°F)

This test was requested by E. L. Ashland, 1523 on October 16, 1964. R. P. May, 7331, was the Test Project Engineer and J. M. Carmichael, 7331, was Test Coordinator. The test item was received October 16, 1964 and the test was completed October 27, 1964.

Procedure and Results

Initially the two SADM's (CTP Units 10 and 12) were received in their respective H911, H912 and H913 containers. Figures 1 and 2 show the two units following removal from the containers. The SADM's were inspected as follows:

1. Dial cover was removed (see Figure 3)
2. MC1827 combination lock operated (see Figure 3)
3. MC1948 lock secured cover removed (see Figure 3)
4. Grease was applied to the O-rings of the MC1948 cover and dial cover
5. The unit was reassembled and placed in an H911 container.

The SADM's in the H911 containers were subjected to the following tests:

Pre-test checkout at low temperature - The units were placed in a temperature chamber (EC15) as shown in Figure 4 and subjected to -40°F for 24 hours. The units were removed from the chamber and inspected as initially with no discrepancies noted. The removal of the MC1948 cover after the MC1827 lock was operated required two men.

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Pre-test checkout at high temperature - The units were placed in a temperature chamber (EC11), see Figure 4, and subjected to +125°F for 24 hours. The units were removed from the chamber and inspected as initially with no discrepancies noted.

After arrival of the CTP committee members the two units were inspected as initially in the presence of the committee members. There were no discrepancies noted during this inspection.

Unit 10 was subjected to the following sequence of environments:

CTP operational test at low temperature - The SADM in an H911 container was placed in a temperature chamber (EC14) as shown in Figure 4 and subjected to -40°F for 24 hours. The unit was removed from the chamber and inspected by the CTP committee members as initially except the O-rings were not regreased. The SADM was removed from the H911 container and allowed to remain at ambient temperature for 5 hours. The bare SADM was again inspected as initially except the O-rings were not regreased. There were no discrepancies noted during either inspection.

The MC1948 cover (see Figure 3) was removed from the unit and the MC1827 lock operated by the committee members in total darkness. The luminescence of the lock was found to be adequate for darkness operation by each committee member.

CTP operational test under water - The bare SADM after reassembly was submerged in a tank of tap water as shown in Figure 5. With approximately one foot of water above the unit, the dial cover was removed and the MC1827 lock operated by a CTP committee member with no difficulty. The unit was then removed from the tank and the MC1948 cover removed to verify proper lock operation.

The MC1948 cover was again subjected to the total darkness operation in the same manner as before with no change in the luminescence of the lock.

Unit 12 in an H911 container was subjected to the following:

CTP operational test at high temperature - The SADM was placed in a temperature chamber (EC12) as shown in Figure 4 and subjected to +125°F for 24 hours. The unit was then removed from the chamber and inspected as initially except the O-rings were not regreased. After removing the SADM from the H911 container and it was allowed to remain at ambient temperature for 5 hours. The bare unit was again inspected as initially except the O-rings were not regreased. No discrepancies were noted during either inspection.

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The MC1948 cover (see Figure 3) was removed from the unit and the MC1827 lock operated by the committee members in total darkness. The luminescence of the lock was found to be adequate for darkness operation by each committee members.

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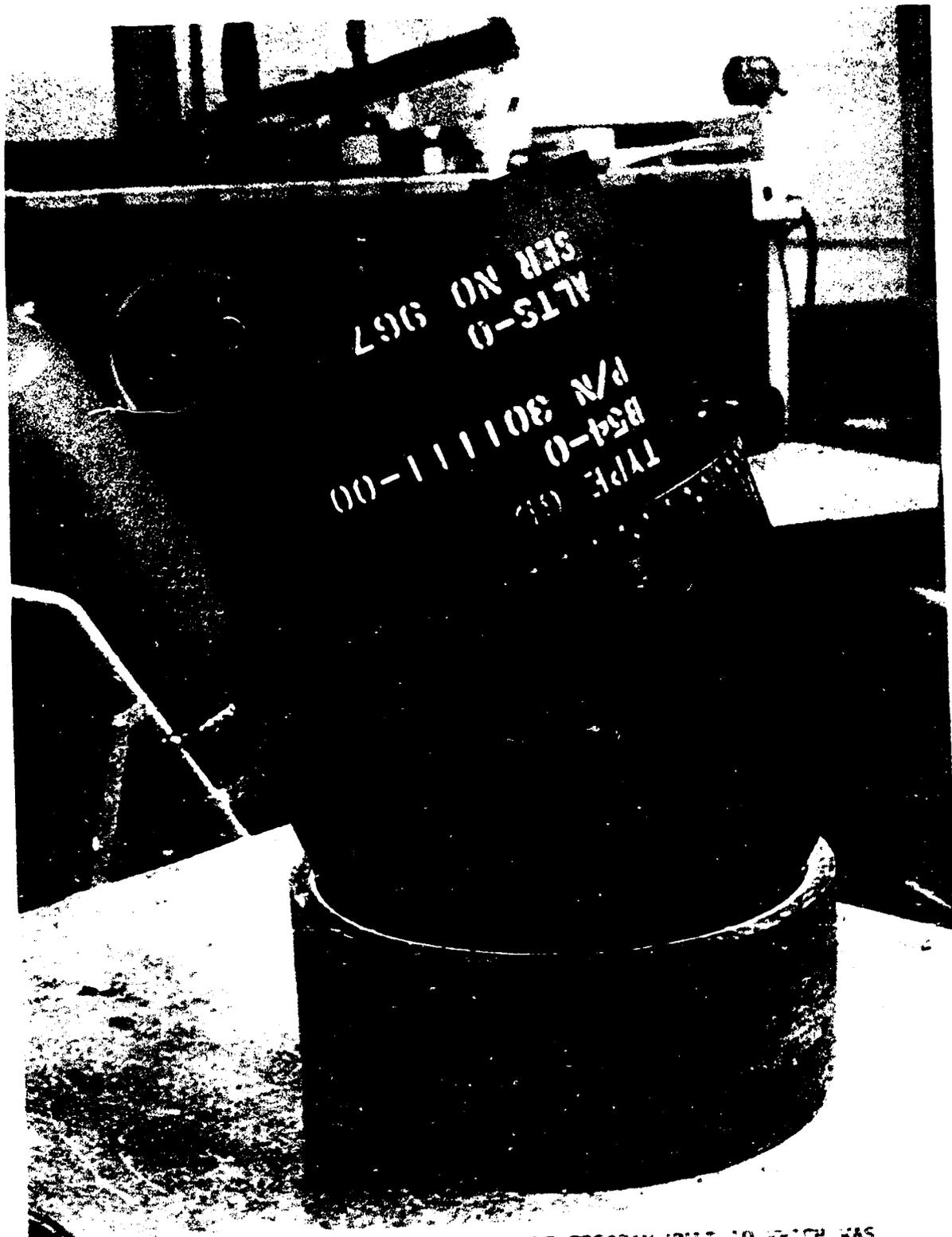


FIGURE 1 - B54-1 (SADM) CONFIRMATION TEST PROGRAM UNIT 10 WHICH WAS
 SUBJECTED TO HIGH AND LOW TEMPERATURE AND WATER IMMERSION

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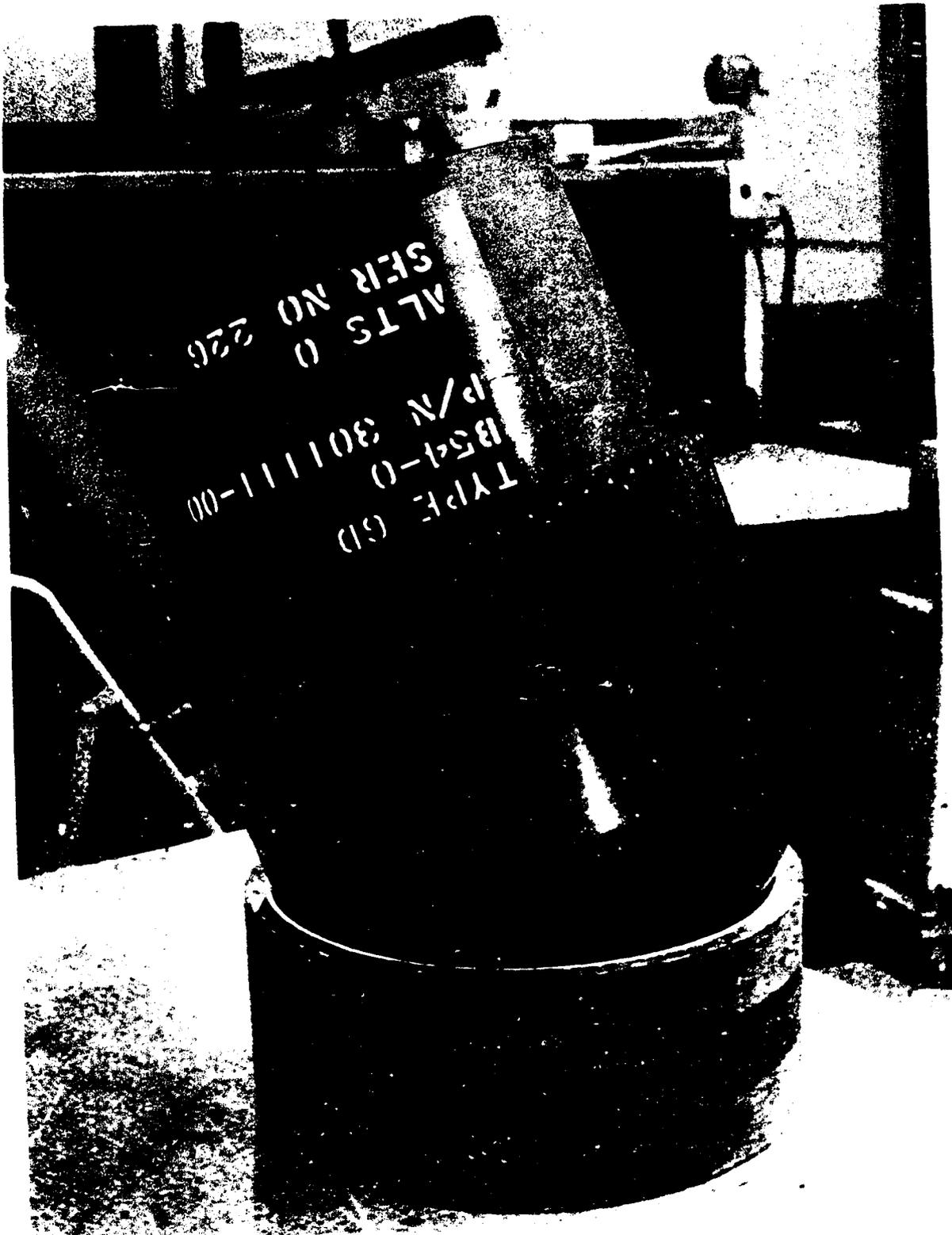


FIGURE 2 - B54-0 (SADM) CONFIRMATION TEST PROGRAM UNIT WHICH WAS
SUBJECTED TO HIGH AND LOW TEMPERATURE

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HEAT
COVER

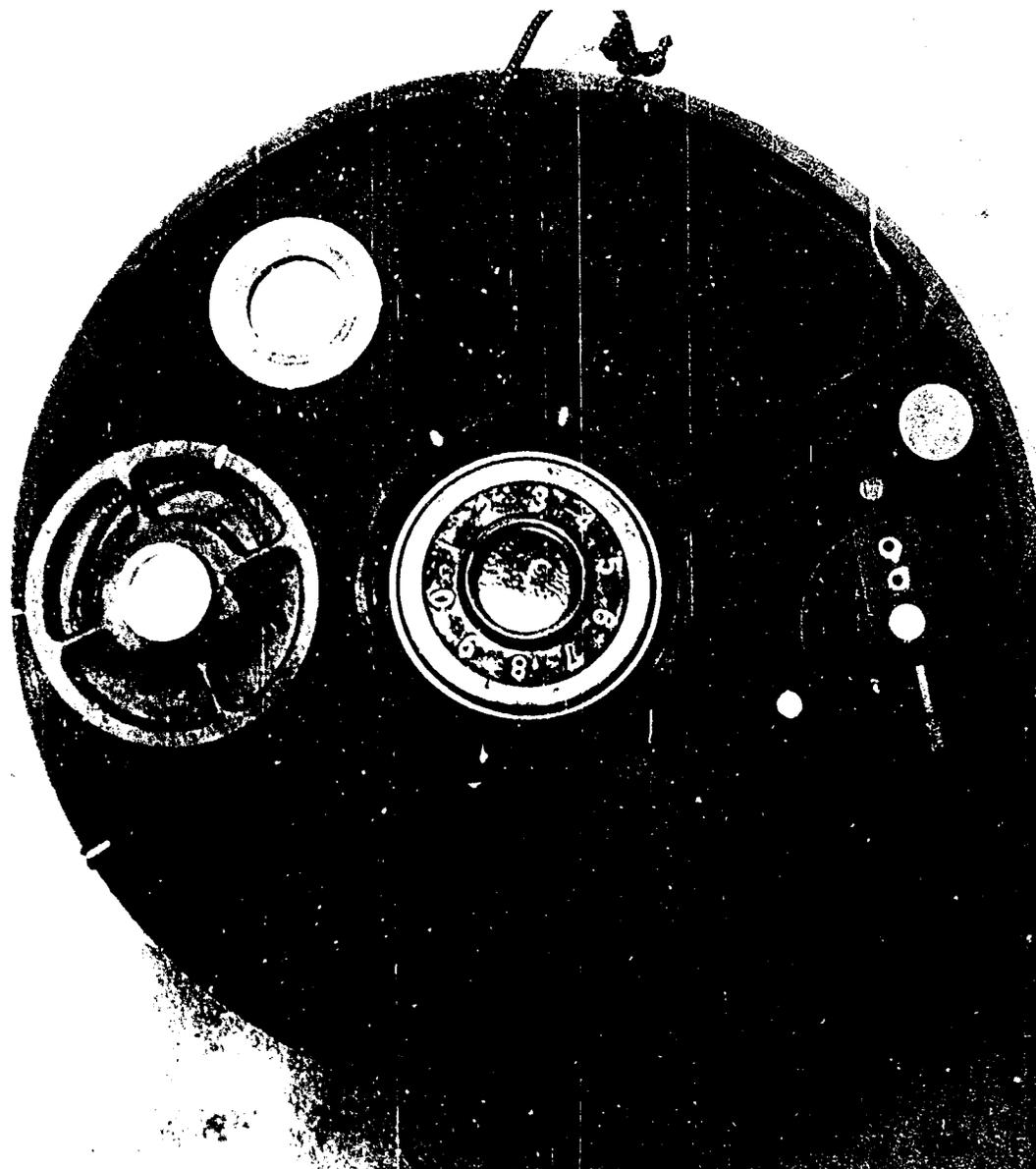


FIGURE 3 - MC1948 LOCK SECURED COVER WITH AN MC1827 COMBINATION LOCK
INSTALLED WHICH WAS SUBJECTED TO HIGH AND LOW TEMPERATURE
WATER IMMERSION

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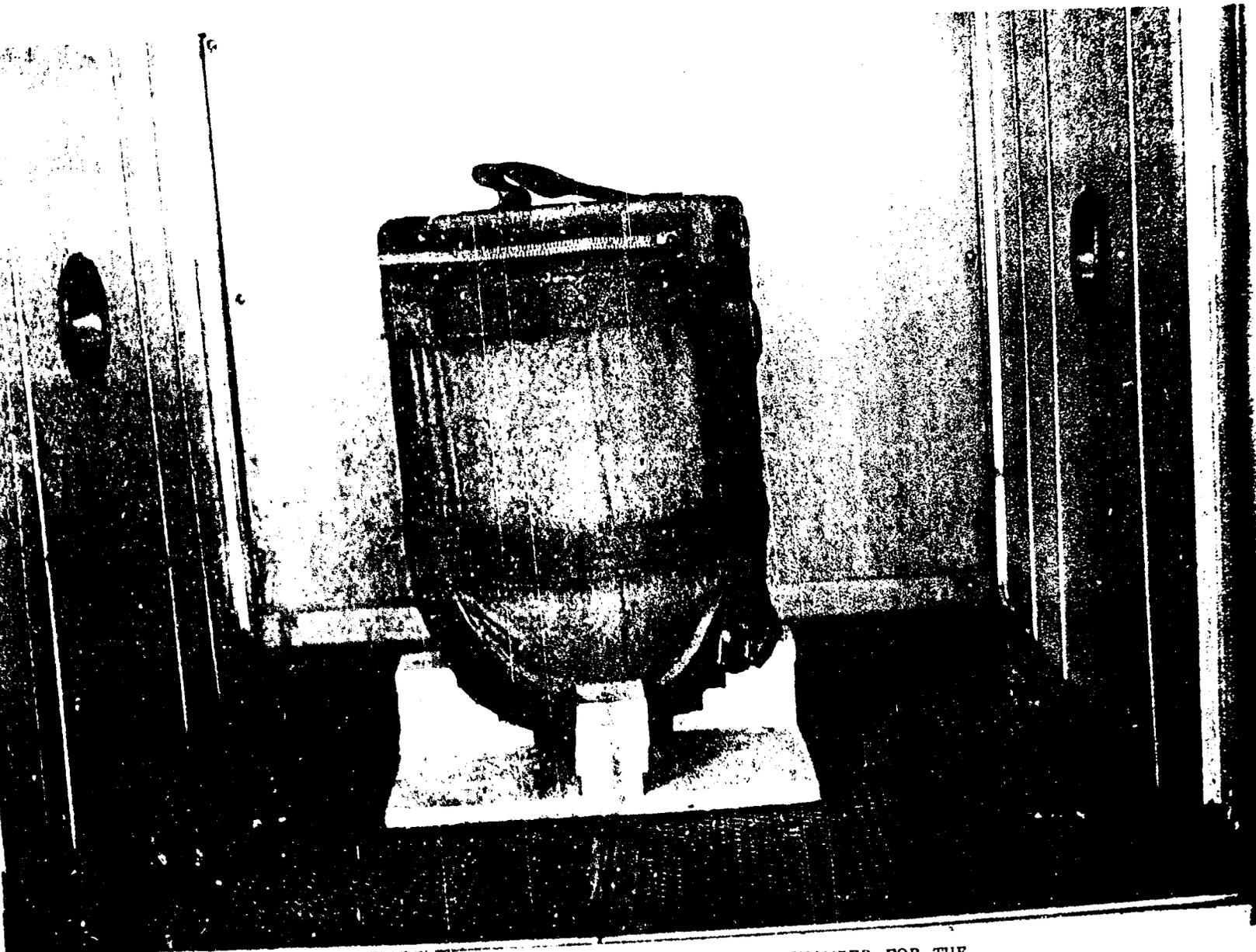


FIGURE 4 - B54-1 (SADM) IN AN H911 CONTAINER IN A TEMPERATURE CHAMBER FOR THE HIGH AND LOW TEMPERATURE TESTS

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