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date: February 14, 1992

to: Steve Yan - NWEF

John Liebenberg

from: J. W. Liebenberg - 5365

subject: Introductory Words on H1501(A) Tests

This memo provides a very short background on the status of H1501 and H1501A testing.

The H1501 preceded the H1501A; both use the same accident resistant technology to protect warheads in transit. Inserts have been designed to adapt the W48 and W79 to the smaller H1501, and the W48, W79 and W70 to the H1501A. Computer modeling has demonstrated similar responses to accidental drops for both the H1501 and the H1501A containers.

The H1501 tests are complete. To date two H1501A tests have been conducted. However in both tests, pulldown cable failures prevented achieving the desired 225 ft/sec impact velocity. A schedule of planned tests for the W48 and the W70 warheads is included. Discussions are just starting that will lead to a schedule for B57 tests.

Attachments:

H1501 and H1501A Compared

H1501 Test Results (7 pages)

H1501A Drop & Burn Test Matrix

...ATION REVIEW

DEPARTMENT OF ENERGY DECLASSIFICATION REVIEW

1ST REVIEW-DATE: 2-19-98	DETERMINATION [CIRCLE NUMBER(S)]
AUTHORITY: ☐AOC ☐ADC ☒ADD	1. CLASSIFICATION RETAINED
NAME: RA Campbell	2. CLASSIFICATION CHANGED TO:
2ND REVIEW-DATE: 2/20/98	3. CONTAINS NO DOE CLASSIFIED INFO
AUTHORITY: ADD	4. COORDINATE WITH:
NAME: H Bohmitt	5. CLASSIFICATION CANCELLED
	6. CLASSIFIED INFO BRACKETED
	7. OTHER (SPECIFY):

(UNCLASSIFIED)

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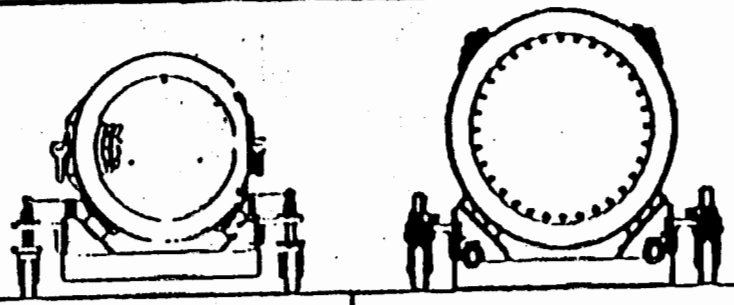
Att 2

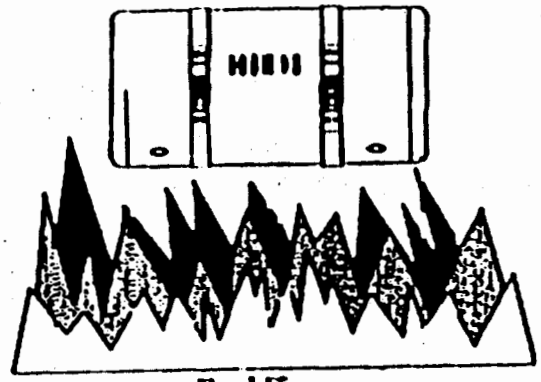
H1501 and H1501A Compared



	H1501	H1501A
Outside/Inside Diameter	32"/16"	38"/20"
Redwood Thickness	6.5"	7.5"
Cavity: Max Cylinder, Max L.	16"ID x 40.5", 47.75	20"ID x 40.5", 47.75
Tie Down Points	90° & 270°	45° & 315°
Length/Width/Height	70"/53"/40"	70"/53"/45"
Empty Weight	1975 lbs	2300 lbs
Weapons	W48, W79	W48, W70, W79
Containers Fielded (or planned)	24	35 (90)

Results of the H' 501 Test Unit A

FIRE:



- 2.5 hour JP-4 fire; windy day
- Redwood smoldered for 9 days
- Inner temperature reached 150° F during burn
- Inner temperature reached 200° F at day 2
- Inner temperature reached 320° F sometime after day 2
- Redwood completely charred near openings; 5" remained in other areas
- Fire fighting procedures were revised

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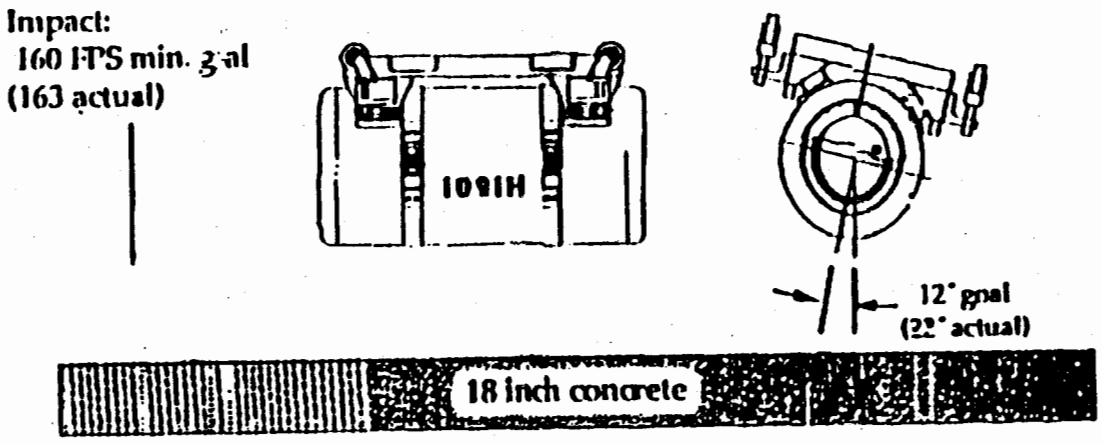
Results of the H1501 Test Unit B

DROP:



- Test weapon was a W79 stiffness mock
- Acceleration data were obtained—analysis in progress
- Outer stainless steel skin remained intact; 2 minor gashes
- Door remained attached
- Fire protection judged to be only slightly degraded
- X-rays suggest no damage to inner container
- X-rays show separated W79 fuze but both pin joints intact

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N1501A DROP & BURN TEST MATRIX

UNIT	DATE	WARHEAD	TEST CONDITIONS	RESULTS/COMMENTS
DROP-1	10/23/91	W48	(100 FPS, DOOR END 10° UP)	o PULL DOWN TEST CABLES BROKE o W48 FORWARD CASE PINS FAILED
DROP-1A	1/22/92	W48	(86 FPS, FLAT DROP)	o PULL DOWN TEST CABLES BROKE o REDESIGNED W48 INSERT o NO PROJECTILE OR INSERT DAMAGE
DROP-1B	late 3/92	W48	225 FPS, DOOR END 20° DOWN	o REDESIGNED W48 INSERT IS USED
BURN-1B	4/92	W48	2-HOUR FUEL FIRE	
DROP-2	early 4/92	W70	225 FPS, LATERAL	o FIRST W70 TEST
BURN-2	4/92	W70	2-HOUR FUEL FIRE	
DROP-3	5/92	W70	?? FPS, AFT END IMPACT	

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