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BUREAU OF SHIPS GROUP TECHNICAL INSPECTION REPORT

Classification (Cancelled) (Changed to **CONFIDENTIAL**)
By Authority of Joint Chiefs of Staff Action of 11 April 1949
J. H. S. [Signature] Date 2 May 51
1st Lt. A. H. S. P.

367481

(6) OPERATIONS CROSSROADS,
U.S.S. CARTERET (APA 70).
TEST BAKER [u], (8)

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Washington, D. C. 20301

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(11) 1947 (12) 35 p.

(14) XRD-125

OPERATION CROSSROADS / FDC
DIRECTOR OF SHIP MATERIAL
JOINT TASK FORCE

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REG. NO. [Redacted]

GROUP 3 1 JAN 1965
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BUREAU OF SHIPS GROUP
TECHNICAL INSPECTION REPORT

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By Authority of Joint Chiefs of Staff Action 6E11 April 1949
By [Signature] Date 24 April 51
1st Lt AFSWP

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Captain, U.S.N.



Page 1 of 35 Pages

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JAN 1965

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SECRET

USS CARTERET (APA70)

U.S.S. CARTERET (APA 70)

SHIP CHARACTERISTICS

Building Yard: Consolidated Steel Corp.; Wilmington,
California.

Commissioned: 3 December 1944.

HULL

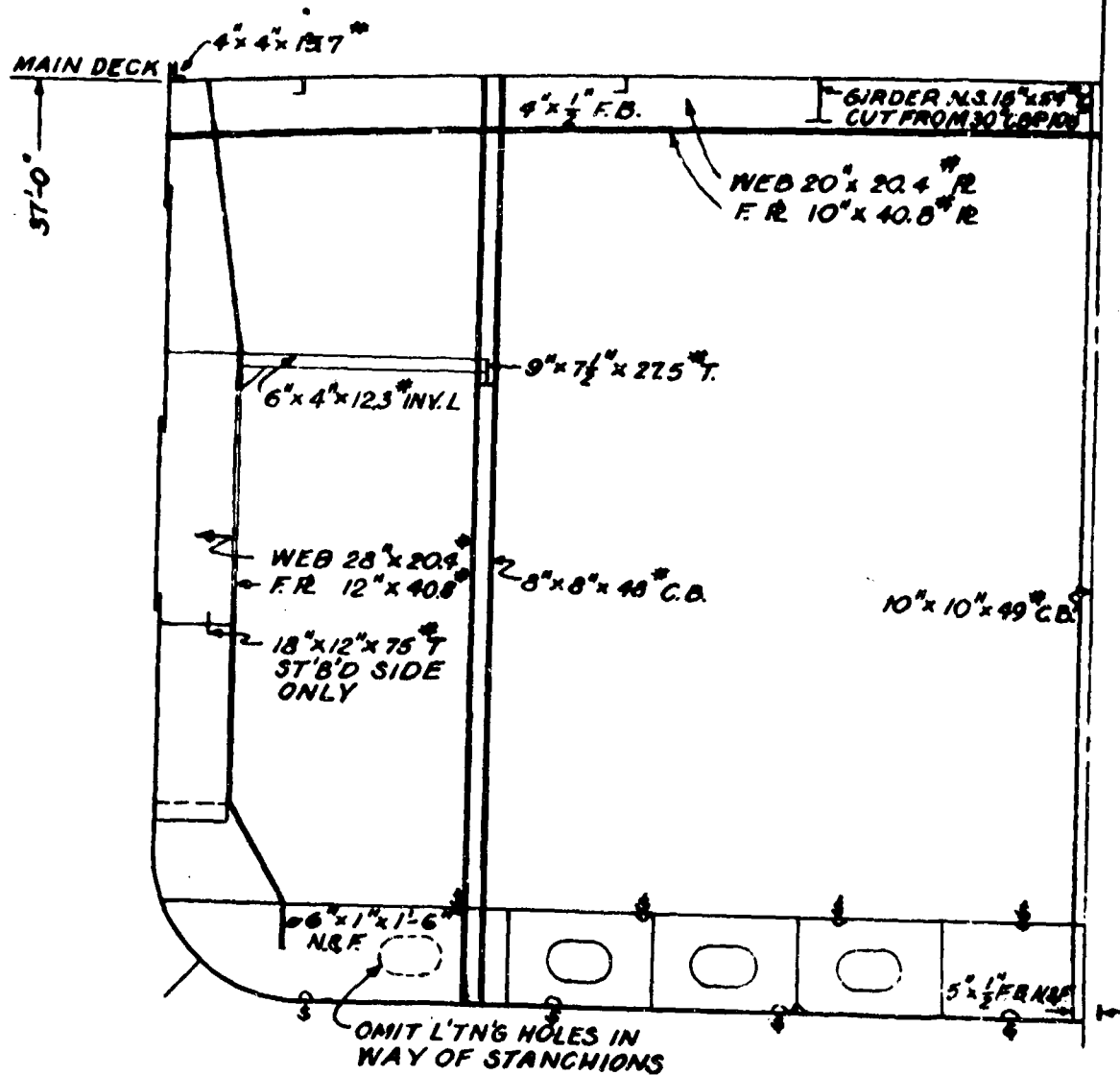
Length Overall: 426 feet 0 inches.
Length on Waterline: 400 feet 0 inches.
Beam (extreme): 58 feet 0 inches.
Depth (molded to upper deck): 37 feet 0 inches.
Drafts at time of test: Fwd. 9 feet 2 inches.
Aft. 16 feet 10 inches.
Limiting displacement: 7,080 tons
Displacement at time of test: 5,595 tons.

MAIN PROPULSION PLANT

Main Engines: Two sets of Westinghouse steam turbines, directly connected to Westinghouse main generators. Two main shaft motors.
Main Condensers: Two are installed in ship.
Boilers: Two Babcock and Wilcox boilers are installed in ship. 450 psi gauge - 750° F.
Propellers; Two are installed
Main Shafts: Two are installed in ship.
Ships Service Generators: Five are installed in ship.
Two - 250 KW. - 450 V. - A.C.
One - 150 KW. - 450 V. - A.C.
Two - 100 KW. - 120/240 V. - D.C.

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USS CARTERET (APA 70)



FRAME 76 LOOKING AFT

MIDSHIP SECTION

TEST - B

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USS. CARTERET (APA-70)

TECHNICAL INSPECTION REPORT

OVERALL SUMMARY

I. Target Condition After Test.

- (a) Drafts after test, general areas of flooding, sources.

list. There is no flooding, hence no change in drafts or

- (b) Structural damage.

HULL

None.

MACHINERY

No comment.

ELECTRICAL

None.

- (c) Other damage.

HULL

None.

MACHINERY

There was no damage to machinery of this vessel, nearly all of which has been operated satisfactorily since Test B.

ELECTRICAL

The main electric plant, ship propulsion and elec

SECRET

U. S. S. CARTERET (APA 70)

trical elements of ship control, fire control and gunnery were unaffected and remained operable.

II. Forces Evidenced and Effects Noted.

(a) Heat.

HULL

None.

MACHINERY

No evidence.

ELECTRICAL

None evidenced.

(b) Fires and Explosions.

HULL

None.

MACHINERY

No evidence.

ELECTRICAL

None evidenced.

(c) Shock.

HULL

There is no definite indication of shock other than the displacement of about six hatch battens from each cargo hatch

SECRET

U. S. S. CARTERET (APA 70)

in the upper deck.

MACHINERY

No evidence.

ELECTRICAL

There was an indication of slight shock evidenced by loosening of cargo hatch cover battens. The electrical equipment remained undamaged as a result of shock.

(d) Pressure.

HULL

None.

MACHINERY

No evidence.

ELECTRICAL

None evidenced.

(e) Effects peculiar to the Atomic Bomb.

HULL

None.

MACHINERY

None, except radioactivity.

ELECTRICAL

None, other than radioactivity and wave phenomena.

SECRET

U. S . S. CARTERET (APA 70)

III. Results of Test on Target.

(a) Effect on machinery, electrical, and ship control.

HULL

None.

MACHINERY

The test had no effect on machinery or ship control except for possible effects of radioactivity in sea water drawn into the piping. As the ship could have steamed out of the area of contaminated water in a few minutes, it is not believed that the test would have affected her machinery if she had been underway.

ELECTRICAL

None.

(b) Effect on gunnery and fire control.

HULL

None.

MACHINERY

No comment.

ELECTRICAL

None.

(c) Effect on water-tight integrity and stability.

HULL

None.

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U. S. S. CARTERET (APA 70)

MACHINERY

No comment.

ELECTRICAL

None.

(d) Effect on personnel and habitability.

HULL

Except for the effects of radioactivity, it is considered that personnel and habitability would not have been affected by the test.

MACHINERY

Except for possible effects of radioactivity, the test had no effect on personnel or habitability below decks.

ELECTRICAL

None, other than radioactivity.

(e) Effect on fighting efficiency.

HULL

None.

MACHINERY

None.

ELECTRICAL

There was no material damage to electrical equipment which would impair the fighting efficiency of this vessel.

SECRET

U. S. S. CARTERET (APA 70)

IV. General Summary of Observer's Impressions and Conclusions.

The material condition of this vessel is such as to indicate it's position in the target array was outside the effective radius of the bomb. There is no evidence of any unusual forces except for falling water on topside.

V. Preliminary recommendations.

HULL

None.

MACHINERY

None.

ELECTRICAL

None.

SECRET

U. S. S. CARTERET (APA 70)

TECHNICAL INSPECTION REPORT

SECTION I - HULL

GENERAL SUMMARY OF HULL DAMAGE

I. Target Condition After Test.

(a) Drafts after test, general areas of flooding, sources.

There is no flooding, hence no change in drafts or list.

(b) Structural Damage.

None.

(c) Other Damage.

None.

II. Forces Evidenced and Effects Noted.

(a) Heat.

None.

(b) Fires and Explosions.

None.

(c) Shock.

There is no definite indication of shock other than that the displacement of about six hatch battens from each cargo hatch in the upper deck may be attributable to this effect.

(d) Pressure.

None.

SECRET

USS CARTERET (APA70)

(e) Effects peculiar to the Atomic Bomb.

None.

III. Results of Test on Target.

(a) Effect on machinery, electrical, and ship control.

None.

(b) Effect on gunnery and fire control.

None.

(c) Effect on watertight integrity and stability.

None.

(d) Effect on personnel and habitability.

Except for the effects of radio activity, it is considered that personnel and habitability would not have been affected by the test.

(e) Effect on fighting efficiency.

None.

IV. General Summary of Observers' Impressions and Conclusions.

None.

V. Preliminary Recommendations.

None.

VI. Instructions for loading the vessel specified the following:

SECRET

USS CARTERET (APA70)

ITEM	LOADING
Fuel oil	10%
Diesel oil	Not over 10 tons
Ammunition	10%
Potable and reserve feed water	95%
Salt water ballast	1275 tons

Details of the actual quantities of the various items aboard are included in Report 7, Stability Inspection Report, submitted by the ship's force in accordance with "Instructions to Target Vessels for Tests and Observations by Ship's Force" issued by the Director of Ships Material. This report is available for inspection in the Bureau of Ships Crossroads Files.

SECRET

USS CARTERET (APA70)

DETAILED DESCRIPTION OF HULL DAMAGE

A. General Description of Hull damage.

No damage. Photos 283-137, 141; pages 33 and 32 show exterior views of the ship after Test B.

B. Superstructure.

No damage.

C. Turrets, Guns and Directors.

No damage.

D. Torpedo Mounts; Depth Charge Gear.

Not applicable.

E. Weather Deck.

No damage. Six battens from the upper deck covers of both cargo hatches were displaced. Scratch gages installed between the main and upper decks recorded no relative movement.

F. Exterior Hull.

No damage.

G. Interior Compartments (above w.l.).

No damage.

H. Armor Decks and Miscellaneous Armor.

Not applicable.

I. Interior Compartments (below w.l.).

No damage.

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USS CARTERET (APA70)

- J. Underwater Hull.
No damage.
- K. Tanks.
No damage.
- L. Flooding.
None.
- M. Ventilation.
No damage.
- N. Ship Control.
No damage.
- O. Fire Control.
No damage.
- P. Ammunition Behavior.
No damage.
- Q. Ammunition Handling.
No damage.
- R. Strength.
No damage.
- S. Miscellaneous.
No comment.

SECRET

USS CARTERET (APA70)

TECHNICAL INSPECTION REPORT

SECTION II - MACHINERY

GENERAL SUMMARY OF MACHINERY DAMAGE

I. Target Condition After Test.

(a) Drafts after test; list; general areas of flooding, sources.

No data taken by machinery group.

(b) Structural damage.

No comment.

(c) Other damage.

There was no damage to machinery of this vessel, nearly all of which has been operated satisfactorily since Test B.

II. Forces Evidenced and Effects Noted.

(a) Heat.

No evidences.

(b) Fires and explosions.

No evidence.

(c) Shock.

No evidence.

(d) Pressure.

No evidence.

(e) Effects apparently peculiar to the atom bomb.

None, except radioactivity.

SECRET

USS CARTERET (APA70)

III. Effects of Damage.

(a) Effect on machinery and ship control.

The test had no effect on machinery or ship control except for possible effects of radioactivity in sea water drawn into the piping. As the ship could have steamed out of the area of contaminated water in a few minutes, it is not believed that the test would have affected her machinery at all if she had been underway.

(b) Effect on gunnery and fire control.

No comment.

(c) Effect on water-tight integrity and stability.

No comment.

(d) Effect on personnel and habitability.

Except for possible effects of radioactivity, the test had no effect on personnel or habitability below decks.

(e) Total effect on fighting efficiency.

None.

IV. General Summary.

The CARTERET was outside the effective range of the explosion of Test B as far as mechanical damage is concerned.

V. Preliminary Recommendations.

None.

SECRET

USS CARTERET (APA70)

DETAILED DESCRIPTION OF MACHINERY DAMAGE

A. General Description of Machinery Damage.

(a) Overall Condition.

The overall condition of the machinery was not changed by Test B.

(b) Areas of major damage.

None.

(c) Primary cause of damage in each area of major damage.

Not Applicable.

(d) Effect of target test on overall operation of machinery plant.

The test had no effect on the overall operation of the machinery plant, except for possible effect of radioactivity in the sea water drawn into the ship.

B. Boilers.

No damage. Both boilers were steamed after Test B and functioned normally. Hydrostatic tests on No. 2 boiler indicate no change in its tightness.

HYDROSTATIC TEST DATA ON BOILER #1

	Before Test B	After Test B
Initial Pressure	450 lb/sq.in.	450 lb/sq.in.
Time required for pressure to drop		
100 lb/sq.in.	20 minutes	10 minutes
200 lb/sq.in.	1 hr. 20 minutes	40 minutes
300 lb/sq.in.	12 hours	11 hours

SECRET

USS CARTERET (APA70)

C. Blowers.

Undamaged. All blowers were operated under service conditions after Test B, and functioned normally.

D. Fuel Oil Equipment.

Undamaged. All fuel oil equipment was used under service conditions after Test B, and functioned normally.

E. Boiler Feedwater Equipment.

Undamaged. The boiler feedwater equipment in the after engine room has been operated and no defects were found. The equipment in the forward engine room has been visually inspected and appears to have suffered no damage by Test B.

F. Main Propulsion Machinery.

1. Undamaged. Both turbines have been turned by steam after Test B, and functioned normally.

2. Leads left in the bearings of the forward main turbine during Test B indicate no measurable movement of the rotor during the test.

BEARING LEAD DATA

#1 MAIN GENERATOR - FORWARD BEARING

Forward lead	Before Test B	After Test B	Difference
Port	.007	.0065	.0005
Top	.008	.0075	.0005
Stb'd	.0055	.0055	.000
After lead			
Port	.0075	.0075	.000
Top	.008	.008	.000
Stb'd	.0065	.0065	.000

SECRET

USS CARTERET (APA70)

#1 MAIN GENERATOR - AFTER BEARING

Forward lead	Before Test B	After Test B	Difference
Port	.007	.007	.000
Top	.010	.0095	.0005
Stb'd	.007	.007	.000
After lead			
Port	.008	.0075	.0005
Top	.011	.0105	.0005
Stb'd	.0065	.0065	.000

G. Reduction Gears .

Not Applicable.

H. Shafting and Bearings .

Undamaged. No. 2 shaft was turned over and operated satisfactorily. Visual inspection of No. 1 shaft revealed no apparent damage.

I. Lubrication System.

Undamaged. All equipment was operated under service conditions after Test B, and functioned normally.

J. Condensers and Air Ejectors.

Undamaged. All condensers were used under service conditions after Test B, and functioned normally.

K. Pumps.

Undamaged. All pumps were operated under service conditions after Test B, and functioned normally.

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USS CARTERET (APA70)

L. Auxiliary Generators (Turbines and Gears).

1. Undamaged. All generators were operated under service conditions after Test B, and functioned normally.

2. Leads left in the bearings of No. 2 ship's service generator during the test indicate no appreciable movement of the rotor.

BEARING LEAD DATA

#2 SHIP'S SERVICE TURBO-GENERATOR

Forward lead	Before Test B	After Test B	Difference
Port	.007	.007	.000
Top	.007	.007	.000
Stb'd	.007	.007	.000
Center lead			
Port	.006	.007	+ .001
Top	.007	.008	.001
Stb'd	.0075	.008	+ .0005
After lead			
Port	.007	.007	.000
Top	.009	.009	.000
Stb'd	.0085	.008	.0005

M. Propellers.

Undamaged. The propellers were inspected from the surface of the water. No defects were apparent.

N. Distilling Plant.

Undamaged. The distilling plant was placed in operation immediately after the test, and functioned normally. It is possible that distillate may have had some radioactivity from the sea water surrounding the vessel.

SECRET

USS CARTERET (APA70)

O. Refrigeration Plant.

Undamaged. The refrigerating plant was placed in operation immediately after Test A, and functioned normally.

P. Winches, Windlasses, and Capstans.

Undamaged. The after deck winches and forward anchor windlass were operated, and functioned normally. The forward deck winches, the after anchor windlass, and the boat winches were not operated but visual inspection shows no damage to them.

Q. Steering Engine.

Undamaged. The steering engine was operated after Test B, and functioned normally.

R. Elevators, Ammunition Hoists, Etc.

Undamaged. All equipment was operated satisfactorily after Test B.

S. Ventilation (Machinery).

Undamaged. All ventilation equipment was operated and found normal.

T. Compressed Air Plant.

Undamaged. The ship's service air compressor was operated after Test B and functioned normally.

U. Diesels (Generators and Boats).

Undamaged. The diesel generator and the two diesel driven fire pumps were operated under service conditions after Test B, and functioned normally.

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U. S. CARTERET (APA70)

V. Piping Systems.

Undamaged. All piping systems were tested at normal working pressures after Test B, and functioned normally.

W. Miscellaneous.

Undamaged. All laundry and machine shop equipment has been inspected visually and no defects were found. Galley equipment has been operated satisfactorily.

SECRET

USS CARTERET (APA70)

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TECHNICAL INSPECTION REPORT

SECTION III - ELECTRICAL

GENERAL SUMMARY OF ELECTRICAL DAMAGE

I. Target Condition After Test.

(a) Drafts after test, list, general areas of flooding, sources.

1. Drafts after test - not observed.

2. List - not observed.

3. Flooding - none.

(b) Structural damage.

1. None.

(c) Damage.

1. The main electric plant, ship propulsion and electrical elements of ship control, fire control and gunnery were unaffected and remained operable.

II. Forces Evidenced and Effects Noted.

(a) Heat.

1. None evidenced.

(b) Fires and explosions.

1. None evidenced.

SECRET

USS CARTERET (APA70)

(c) Shock.

1. There was an indication of slight shock evidenced by loosening of cargo hatch cover battens. The electrical equipment remained undamaged as a result of shock.

(d) Pressure.

1. None evidenced.

(e) Any effect apparently peculiar to the atom bomb.

1. None, other than radioactivity and wave phenomena.

III. Effects of Electrical Damage.

(a) Effect on electrical machinery and ship control.

1. None.

(b) Effect on gunnery and fire control.

1. None.

(c) Effect on water-tight integrity and stability.

1. None.

(d) Effect on personnel and habitability.

1. None, other than radioactivity.

(e) Total effect on fighting efficiency.

1. There was no material damage to electrical equipment which would impair the fighting efficiency of this vessel.

SECRET

USS CARTERET (APA70)

IV. General Summary of Observers' Impressions and Conclusions.

1. The material condition of this vessel is such as to indicate its position in the target array was outside the effective radius of the bomb. There is no evidence of any unusual forces except for falling water on topside. This did not damage any electrical equipment.

V. Recommendations.

1. None.

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USS CARTERET (APA70)

DETAILED DESCRIPTION OF ELECTRICAL DAMAGE

A. General Description of Electrical Damage.

(a) Overall condition.

1. The overall condition of the electrical equipment remained unchanged and operable as before test.

(b) Areas of major damage.

1. None.

(c) Primary causes of damage in each area of major damage.

1. No damage.

(d) Effect of target test on overall operation of electrical plant.

1. Ship's service generator plant.

(a) No effect. Operated satisfactorily.

2. Engine and boiler auxiliaries.

(a) No effect. Operated satisfactorily.

3. Electrical propulsion.

(a) No effect. Operated satisfactorily.

4. Communications.

(a) No effect. Operated satisfactorily.

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USS CARTERET (APA70)

5. Fire control circuits.

(a) No effect. Operated satisfactorily.

6. Ventilation.

(a) No effect. Operated satisfactorily.

7. Lighting.

(a) No effect. Operated satisfactorily.

(e) Types of equipment most affected.

1. None.

L. Electric Propulsion Rotating Equipment.

No damage.

C. Electric Propulsion Control Equipment.

No damage.

D. Ship's Service Generators.

No damage.

E. Emergency Generators.

No damage.

F. Switchboards and Distribution Panels.

No damage.

G. Wiring, Wiring Equipment and Wireways.

No damage.

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USS CARTERET (APA70)

H. Transformers.

No damage.

I. Submarine Propelling Batteries.

Not applicable.

J. Portable Batteries.

No damage.

K. Motors, Motor-Generator Sets and Motor Controllers.

No damage.

L. Lighting Equipment.

No damage.

M. Searchlights.

No damage.

N. Degaussing Equipment.

No damage.

O. Gyro Compass Equipment.

No damage.

P. Sound Powered Telephones.

No damage.

Q. Ship's Service Telephones.

Not applicable.

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USS CARTERET (APA70)

R. Announcing Systems.

No damage.

S. Telegraphs.

No damage.

T. Indicating Systems.

No damage.

U. I.C. and A.C.O. Switchboards.

No damage.

V. F.C. Switchboards.

No damage.

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USS CARTERET (APA 70)

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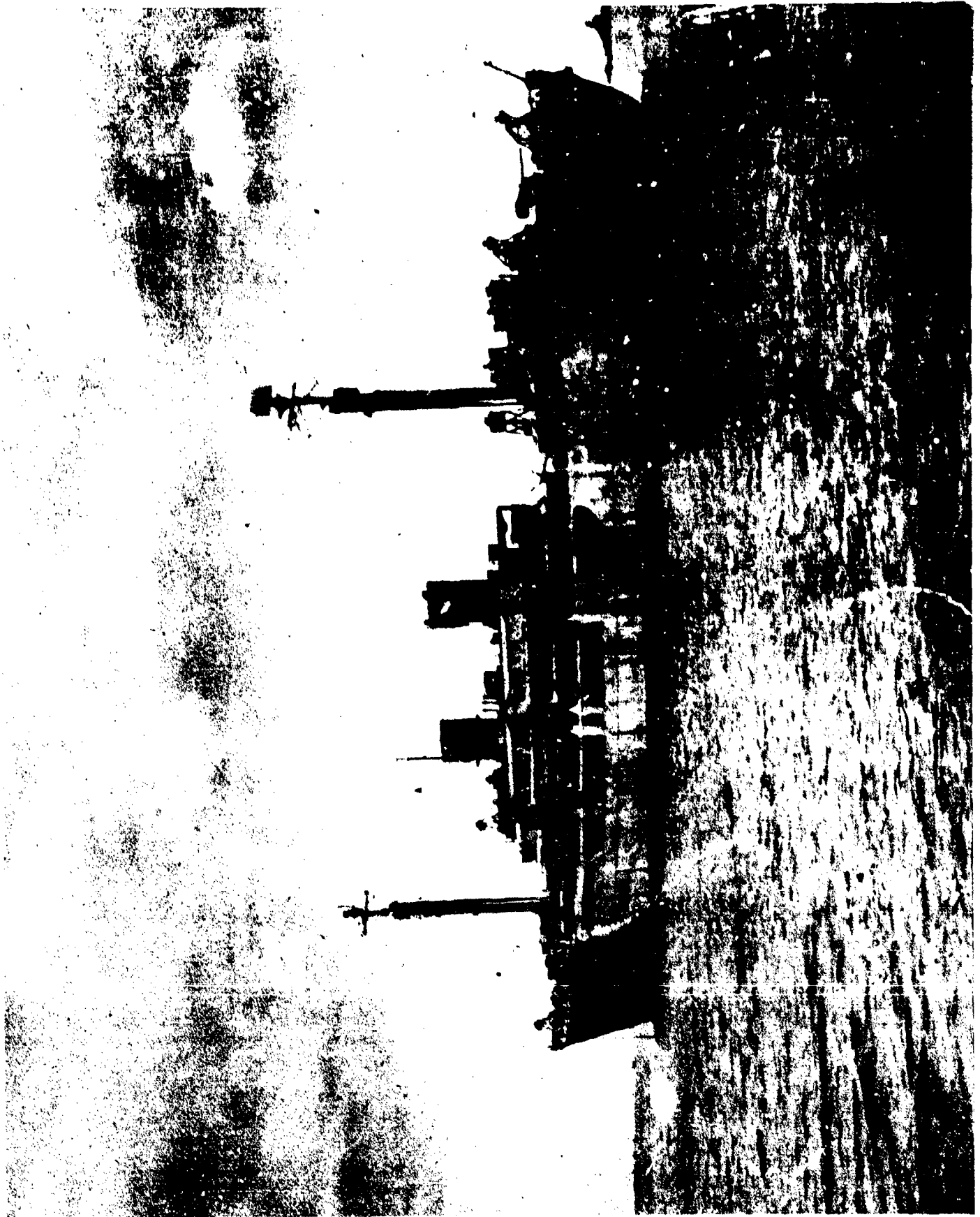
SECTION IV

PHOTOGRAPHS

TEST BAKER

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USS CARTERET (APA 70)

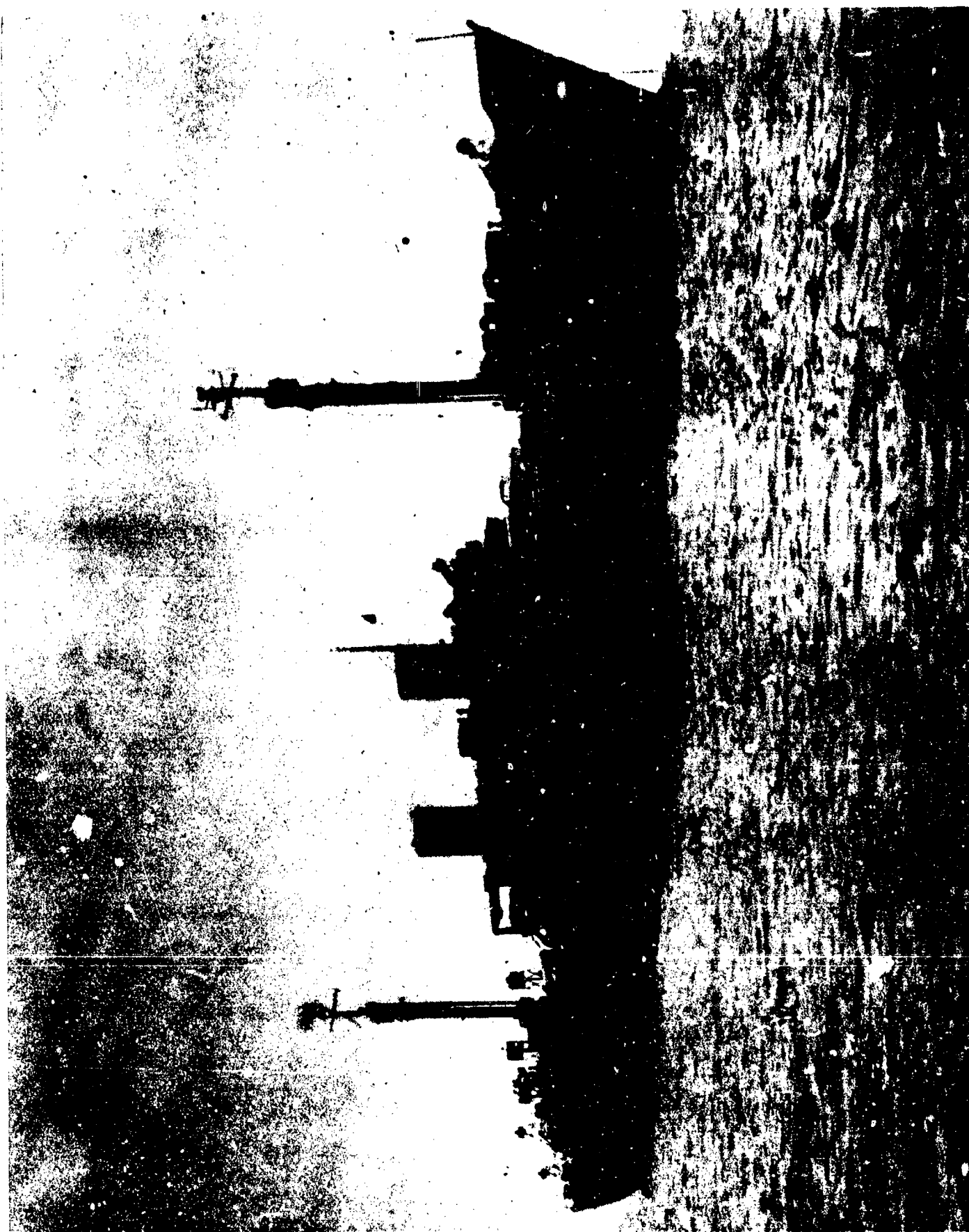


AB-CR-227-283-141. View from port quarter after test B.

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USS CARTERET (APA70)
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AB-CR-227-283-137. View from starboard bow after Test B.

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USS CARTERET (APA70)

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APPENDIX

COMMANDING OFFICER'S REPORT

TEST BAKER

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USS CARTERET (APA70)

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COMMANDING OFFICERS REPORT

REPORT # 11

SECTION - I

The material condition of the ship was good. The only damage acquired in Test A was stbd., flag bag mashed in and stacks slightly dished on after stbd. side.

The ship had no special material on board for Test B.

There was no structural damage done to vessel in Test B. The ship could be ready to steam at full power and fight with full efficiency immediately after the test.

The only effects of the target test on Baker day was the radiological condition of the vessel. There was no flooding nor fires on board. It is believed the personnel on the vessel both exposed and protected would have been put out of action. The exposed immediately and the protected later from radiological activity.

The Commanding Officer is of the opinion that an absolutely smooth surface free from rust (such as CRS) or well painted surface would be a protection against radiological activity as it could be cleaned quickly.

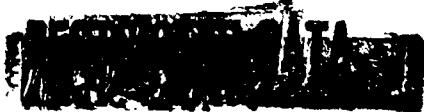
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USS CARTERET (APA-70)

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By Authority of Joint Chiefs of Staff Action of 15 April 1949
By John A. Burchard Date 24 Apr 51
Mr. V. AFSWP



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Defense Special Weapons Agency
6801 Telegraph Road
Alexandria, Virginia 22310-3398

TRC

18 April 1997

MEMORANDUM FOR DEFENSE TECHNICAL INFORMATION CENTER
ATTENTION: OMI/Mr. William Bush (Security)

SUBJECT: Declassification of Reports

The Defense Special Weapons Agency has declassified the following reports:

✓AD-366588	XRD-203-Section 12
AD-366589	XRD-200-Section 9
AD-366590	XRD-204-Section 13
AD-366591	XRD-183
✓AD-366586	XRD-201-Section 10
✓AD-367487	XRD-131-Volume 2
✓AD-367516	XRD-143
✓AD-367493	XRD-142
AD-801410L	XRD-138
AD-376831L	XRD-83
AD-366759	XRD-80
✓AD-376830L	XRD-79
✓AD-376828L	XRD-76
✓AD-367464	XRD-106
AD-801404L	XRD-105-Volume 1
✓AD-367459	XRD-100

TRC

18 April 1997

Subject: Declassification of Reports

✓AD-367491 ✕	XRD-134-Volume 2 ✓
✓AD-367479 ✕	XRD-123 ✓
✓AD-367478 ✕	XRD-122 ✓
AD-367481 ✕	XRD-125 ✓
AD-367500 ✓	XRD-159-Volume 2 <i>revised</i>
AD-367499 ✕	XRD-160-Volume 3 ✓
AD-367498 ✕	XRD-161-Volume 4 ✓
AD-367512 ✓	XRD-147
AD-367511 ✓	XRD-148
AD-367465 ✕	XRD-107 ✓
AD-366733 ✓	XRD-43
AD-367477 ✕	XRD-121 ✓
AD-367476 ✕	XRD-120 ✓
AD-367467 ✕	XRD-109-Volume 1 ✓
AD-367475 ✕	XRD-119 ✓
AD-367474 ✕	XRD-118 ✓
AD-367473 ✕	XRD-117 ✓
AD-367472 ✕	XRD-116 ✓
AD-367471 ✕	XRD-115 ✓
AD-367466 ✕	XRD-108 ✓
AD-801405L ✓	XRD-113
AD-367470 ✕	XRD-112 ✓
AD-367469 ✕	XRD-111 ✓

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18 April 1997

Subject: Declassification of Reports

AD-801406L ✓ XRD-114.

In addition, all of the cited reports are now **approved for public release; distribution statement "A" now applies.**

Arduith Jarrett
ARDITH JARRETT
Chief, Technical Resource Center