

UNITED STATES DEPARTMENT OF THE INTERIOR  
NATIONAL PARK SERVICE

**NATIONAL REGISTER OF HISTORIC PLACES  
INVENTORY -- NOMINATION FORM**

FOR NPS USE ONLY	
RECEIVED	
DATE ENTERED	

SEE INSTRUCTIONS IN *HOW TO COMPLETE NATIONAL REGISTER FORMS*  
TYPE ALL ENTRIES -- COMPLETE APPLICABLE SECTIONS

**1 NAME**

HISTORIC U.S.S. Texas

AND/OR COMMON The Battleship Texas

**2 LOCATION**

STREET & NUMBER San Jacinto Battleground State Park  
ca. 22 mi. east of Houston on Tex. 134

CITY, TOWN

VICINITY OF Houston

NOT FOR PUBLICATION  
CONGRESSIONAL DISTRICT 8

STATE

Texas

CODE

48

COUNTY

Harris

CODE

201

**3 CLASSIFICATION**

CATEGORY	OWNERSHIP	STATUS	PRESENT USE
<input type="checkbox"/> DISTRICT	<input checked="" type="checkbox"/> PUBLIC	<input checked="" type="checkbox"/> OCCUPIED	<input type="checkbox"/> AGRICULTURE <input checked="" type="checkbox"/> MUSEUM
<input type="checkbox"/> BUILDING(S)	<input type="checkbox"/> PRIVATE	<input type="checkbox"/> UNOCCUPIED	<input type="checkbox"/> COMMERCIAL <input type="checkbox"/> PARK
<input type="checkbox"/> STRUCTURE	<input type="checkbox"/> BOTH	<input type="checkbox"/> WORK IN PROGRESS	<input checked="" type="checkbox"/> EDUCATIONAL <input type="checkbox"/> PRIVATE RESIDENCE
<input type="checkbox"/> SITE	<input type="checkbox"/> PUBLIC ACQUISITION	<input type="checkbox"/> ACCESSIBLE	<input type="checkbox"/> ENTERTAINMENT <input type="checkbox"/> RELIGIOUS
<input checked="" type="checkbox"/> OBJECT	<input type="checkbox"/> IN PROCESS	<input checked="" type="checkbox"/> YES: RESTRICTED	<input type="checkbox"/> GOVERNMENT <input type="checkbox"/> SCIENTIFIC
	<input type="checkbox"/> BEING CONSIDERED	<input type="checkbox"/> YES: UNRESTRICTED	<input type="checkbox"/> INDUSTRIAL <input type="checkbox"/> TRANSPORTATION
		<input type="checkbox"/> NO	<input type="checkbox"/> MILITARY <input type="checkbox"/> OTHER:

**4 OWNER OF PROPERTY**

Contact: C.H. Taylor, Chairman

NAME State of Texas, The Battleship Texas Commission

STREET & NUMBER EXXON Building; Suite 2695

CITY, TOWN

Houston

VICINITY OF

STATE

Texas

**5 LOCATION OF LEGAL DESCRIPTION**

COURTHOUSE, REGISTRY OF DEEDS, ETC. The Battleship Texas Commission

STREET & NUMBER EXXON Building, Suite 2695

CITY, TOWN

Houston

STATE

Texas

**6 REPRESENTATION IN EXISTING SURVEYS**

TITLE ASME National Historical Mechanical Engineering Landmark Program

DATE 1975

FEDERAL  STATE  COUNTY  LOCAL national, private

DEPOSITORY FOR SURVEY RECORDS ASME United Engineering Center

CITY, TOWN

New York

STATE

New York

# 7 DESCRIPTION

CONDITION		CHECK ONE	CHECK ONE
<input type="checkbox"/> EXCELLENT	<input type="checkbox"/> DETERIORATED	<input type="checkbox"/> UNALTERED	<input type="checkbox"/> ORIGINAL SITE
<input checked="" type="checkbox"/> GOOD	<input type="checkbox"/> RUINS	<input checked="" type="checkbox"/> ALTERED	<input checked="" type="checkbox"/> MOVED DATE <u>1948</u>
<input type="checkbox"/> FAIR	<input type="checkbox"/> UNEXPOSED		

DESCRIBE THE PRESENT AND ORIGINAL (IF KNOWN) PHYSICAL APPEARANCE

Newport News Shipbuilding and Dry Dock Company built Texas (BB35) in 1911-14. Upon her completion she measured 573 feet long, was 94 3/4 feet wide at the beam, had a normal displacement of 27,000 tons and a mean draft of 28 1/2 feet, and boasted a top speed of 21 knots. She carried ten 14-inch guns, sixteen 5-inch guns, eight 3-inch guns, assorted anticraft weapons, three seaplanes launchable from a catapult, and a crew of 1,314.<sup>8</sup>

Texas was one of the last two American warships built with reciprocating steam engines, and she is the only surviving one. The engines, which drive twin screws, are four-cylinder, triple-expansion machines with a total designed horsepower of 28,100 at 125 revolutions per minute and steam at 265 pounds per square inch. Cylinder bores are: high pressure, 39 inches; intermediate pressure, 63 inches; and low pressure (two cylinders), 83 inches. All have a 48-inch stroke. Cylinder sequence is: forward low pressure, high pressure, intermediate pressure, and aft low pressure. Crank angles are 90° and the working sequence is high, intermediate, forward low, and aft low. Each high pressure cylinder has one piston valve, and each of the other cylinders has two. All are actuated by Stephenson's double-link valve gear. Cylinders and valve crests are cast iron; working liners are close-grained cast iron. The pistons, all conical, are cast steel, except the high pressure which is cast iron. Except for the high pressure, the cylinders are steam-jacketed around the liners and at both ends. Bedplates are cast steel, and framing consists of Navy-type forged steel columns bolted to the bedplate and cylinders and braced by diagonal, cross, and longitudinal stays.

All working and moving parts of the main engines, except the valve links and valve-stem guides, are force lubricated under a pressure of about 50 pounds per square inch. The crank pits are totally enclosed by galvanized sheet-steel casings within 18 inches of the bottoms of the cylinders. Steam is supplied by 15 Babcock and Wilcox water-tube boilers working at 295 pounds per square inch, throttled down to 265 pounds per square inch at the engines. The heating surface is 62,213 square feet and the grate area 1,554 square feet. Furnaces operate under closed fire-room forced draft with an ashpit pressure of 2 inches of water. Total machinery weight is 2,375 tons. The propellers are three-bladed; have manganese bronze blades; measure 18 feet, 7 1/2 inches in diameter; and have a pitch of 19 feet, 11 1/2 inches.<sup>9</sup>

<sup>8</sup> Murphey and Serratore, "Reciprocating Steam Engines: U.S.S. Texas," 3.

<sup>9</sup> Ibid., 5-6. Although still intact, Texas' engines are no longer operable.

# 8 SIGNIFICANCE

## RELATED TO BOTH THE MILITARY AND THE ENGINEERING THEMES. AREAS OF SIGNIFICANCE -- CHECK AND JUSTIFY BELOW

PERIOD				
<input type="checkbox"/> PREHISTORIC	<input type="checkbox"/> ARCHEOLOGY-PREHISTORIC	<input type="checkbox"/> COMMUNITY PLANNING	<input type="checkbox"/> LANDSCAPE ARCHITECTURE	<input type="checkbox"/> RELIGION
<input type="checkbox"/> 1400-1499	<input type="checkbox"/> ARCHEOLOGY-HISTORIC	<input type="checkbox"/> CONSERVATION	<input type="checkbox"/> LAW	<input type="checkbox"/> SCIENCE
<input type="checkbox"/> 1500-1599	<input type="checkbox"/> AGRICULTURE	<input type="checkbox"/> ECONOMICS	<input type="checkbox"/> LITERATURE	<input type="checkbox"/> SCULPTURE
<input type="checkbox"/> 1600-1699	<input type="checkbox"/> ARCHITECTURE	<input type="checkbox"/> EDUCATION	<input checked="" type="checkbox"/> MILITARY	<input type="checkbox"/> SOCIAL/HUMANITARIAN
<input type="checkbox"/> 1700-1799	<input type="checkbox"/> ART	<input checked="" type="checkbox"/> ENGINEERING	<input type="checkbox"/> MUSIC	<input type="checkbox"/> THEATER
<input type="checkbox"/> 1800-1899	<input type="checkbox"/> COMMERCE	<input type="checkbox"/> EXPLORATION/SETTLEMENT	<input type="checkbox"/> PHILOSOPHY	<input type="checkbox"/> TRANSPORTATION
<input checked="" type="checkbox"/> 1900-	<input type="checkbox"/> COMMUNICATIONS	<input type="checkbox"/> INDUSTRY	<input type="checkbox"/> POLITICS/GOVERNMENT	<input type="checkbox"/> OTHER (SPECIFY)
		<input type="checkbox"/> INVENTION		

SPECIFIC DATES 1910-1948 BUILDER/ARCHITECT Newport News Shipbuilding and Dry Dock Company

### STATEMENT OF SIGNIFICANCE

When completed in 1914, the U.S.S. Texas (BB35) was one of the last two American-built warships powered by reciprocating steam engines. Today she is the only surviving one. Navy guns and planes sent Texas' sister ship, U.S.S. New York, to the bottom of the Pacific Ocean during a training exercise in 1948.

In addition to making Texas unique, her reciprocating steam engines, which the American Society of Mechanical Engineers calls the "most sophisticated" of their class, make the vessel a symbol of the rapid evolution of steam power in U.S. warships between the 1880's and the first decade of the 20th century.<sup>1</sup> Although one-quarter of all Navy ships had steam power by 1850, naval authorities did not fully accept steam for major vessels until the 1870's. Once adopting steam power for capital ships, however, the Navy moved quickly from reciprocating to turbine engines. When Texas and New York were authorized in 1910, the Navy already had three turbine-powered battleships and selected reciprocating engines for the two new vessels largely to force turbine builders to adopt improved designs.

In 34 years of service Texas not only proved the durability of its engines but performed outstandingly in both the First and Second World Wars. In World War I Texas joined the 6th Battle Squadron of the British Grand Fleet in protecting the British Isles, and in World War II the still formidable vessel escorted several Atlantic convoys, participated in the North African and Normandy invasions in the Atlantic Theater, and assisted in the preinvasion bombardments of Iwo Jima and Okinawa in the Pacific Theater. Of the Normandy action, Ernest Hemingway, who observed the scene, wrote that while Texas fired 14-inch shells at enemy defenses, soldiers approaching the beach in landing craft watched the ship's flashing guns with both surprise and great joy. "Under their steel helmets," he said of the troops, "they looked like pikemen of the Middle Ages to whose aid in battle had suddenly come some strange and unbelievable monster."<sup>2</sup>

1

Carey Murphey and Peter Serratore, "Reciprocating Steam Engines: U.S.S. Texas" Mimeographed (New York, 1975), 3.

2

Quoted in Samuel Eliot Morison, The Invasion of France and Germany, 1944-45 (Boston, 1957), 135.

## 9 MAJOR BIBLIOGRAPHICAL REFERENCES

Battleship Texas Commission, "The Battleship Texas." Pamphlet (Houston: The Battleship Texas Commission, n.d.).

Blount, William J. (illus.), "U.S.S. Texas." Diagram (Houston: The Battleship Texas Commission, 1971).

(cont.)

## 10 GEOGRAPHICAL DATA

ACREAGE OF NOMINATED PROPERTY \_\_\_\_\_

UTM REFERENCES

A 

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3	2	9	3	3	8	0
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ZONE EASTING NORTHING

B 

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ZONE EASTING NORTHING

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D 

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VERBAL BOUNDARY DESCRIPTION

LIST ALL STATES AND COUNTIES FOR PROPERTIES OVERLAPPING STATE OR COUNTY BOUNDARIES

STATE	CODE	COUNTY	CODE

STATE	CODE	COUNTY	CODE

## 11 FORM PREPARED BY

NAME / TITLE

George R. Adams, Managing Editor

ORGANIZATION

American Association for State and Local History

DATE

April 1976

STREET & NUMBER

1400 Eighth Avenue South

TELEPHONE

615-242-5583

CITY OR TOWN

Nashville

STATE

Tennessee

## 12 STATE HISTORIC PRESERVATION OFFICER CERTIFICATION

THE EVALUATED SIGNIFICANCE OF THIS PROPERTY WITHIN THE STATE IS:

NATIONAL

STATE

LOCAL

As the designated State Historic Preservation Officer for the National Historic Preservation Act of 1966 (Public Law 89-665), I hereby nominate this property for inclusion in the National Register and certify that it has been evaluated according to the criteria and procedures set forth by the National Park Service.

FEDERAL REPRESENTATIVE SIGNATURE

TITLE

DATE

FOR NPS USE ONLY

I HEREBY CERTIFY THAT THIS PROPERTY IS INCLUDED IN THE NATIONAL REGISTER

DATE

DIRECTOR, OFFICE OF ARCHEOLOGY AND HISTORIC PRESERVATION

ATTEST:

DATE

KEEPER OF THE NATIONAL REGISTER

UNITED STATES DEPARTMENT OF THE INTERIOR  
NATIONAL PARK SERVICE

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CONTINUATION SHEET U.S.S. Texas ITEM NUMBER 7 PAGE one

Initially Texas burned coal and used oil only as an auxiliary fuel in an emergency. During a major overhaul in 1925, the Navy converted the vessel to oil. At the same time workmen took down her two cagemasts, installed a high tripod foremast, and added advanced fire control equipment, more armor, and antitorpedo blisters.

At the end of World War II, the United States made major military cutbacks, and Texas appeared expendable. Rather than watch the gallant vessel mothballed or scrapped, Texans, led by Lloyd Gregory, created the Battleship Texas Commission and raised money to save her. Tugs towed the huge ship from Norfolk Navy Yard to Houston in 1948, and there the U.S. Government decommissioned her and presented her to the State for use as a historic monument.

Today Texas is permanently moored in a slip off the Houston Ship Channel on the edge of the San Jacinto Battleground State Park. Her only enemies now are air pollution and the weather. Constant exposure plus heavy tourist traffic and lack of a large crew of sailors for swabbing and polishing have led to deterioration of the ship's teakwood main deck, much of which is covered today with a concrete slab. Rust is a constant problem too, but Texas' curator and staff do a good job in combatting it. Many areas of the ship are open to the public, including the engine rooms, and several small museums are maintained aboard her. In 1975 the American Society of Mechanical Engineers declared Texas a National Mechanical Engineering Landmark for her reciprocating steam engines.

CONTINUATION SHEET U.S.S. Texas ITEM NUMBER 9 PAGE one

Morison, Samuel Eliot, The Invasion of France and Germany, 1944-1945  
(Boston: Little, Brown, and Company, 1957).

\_\_\_\_\_, Victory in the Pacific, 1945 (Boston: Little,  
Brown, and Company, 1960).

Murphey, Carey and Peter Serratore, "Reciprocating Steam Engines: U.S.S.  
Texas." Mimeographed (New York: American Society of Mechanical  
Engineers, 1975).

Pater, Alan F., United States Battleships: The History of America's  
Greatest Fighting Fleet (Beverly Hills: Monitor Book Company, 1968).

Pratt, Fletcher, The Compact History of the United States Navy. Revised  
Edition (New York: Hawthorn Books, Inc., 1962).

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CONTINUATION SHEET U.S.S. Texas ITEM NUMBER 8 PAGE one

Decommissioned in 1948, the 573-foot-long, 34,000-ton Texas now lies permanently moored in a slip off the Houston Ship Channel on the edge of San Jacinto Battleground State Park.

History

The U.S.S. Texas (BB35) is the second battleship named for the Lone Star State. Workmen at Norfolk Navy Yard built the first one in 1892-95. It played a leading role in naval operations in the Caribbean during the Spanish-American War and was decommissioned and sunk in 1911. By that time Congress had authorized construction of the second Texas and two other new battleships--New York and Oklahoma.

For the new Texas, destiny saved a special niche in shipbuilding history. Having opposed for years the use of steam to power its capital ships, the Navy Department had accepted it in the 1880's and, following a rapid evolution in engine design, had concluded that steam turbines represented the engines of the future. By 1910 the U.S. Fleet included three turbine-powered battleships, and eventually Oklahoma would be the fourth. For Texas and New York, however, the Navy reverted to reciprocating steam engines largely to force turbine builders to improve future designs according to Navy specifications. When completed, Texas and New York had, according to the American Society of Mechanical Engineers, "the last, and most sophisticated, reciprocating steam engines" installed in American warships.<sup>3</sup> Today only Texas survives, New York having been decommissioned and sunk in 1948.

Building Texas at a bid price of \$5,830,000, Newport News Shipbuilding and Dry Dock Company laid the vessel's keel in April 1911 and launched the new ship in May 1912. The Navy commissioned her in March 1914. Upon her completion Texas measured 573 feet long, was 94 3/4 feet wide at the beam, had a normal displacement of 27,000 tons and a mean draft of 28 1/2 feet, and boasted a top speed of 21 knots. She carried ten 14-inch guns, sixteen 5-inch guns, eight 3-inch guns, assorted anticraft weapons, three seaplanes launchable from a catapult, and a crew of 1,314.<sup>4</sup>

Texas' first cruise began May 19, 1914, and took the warship to the eastern coast of Mexico, where following the Tampico Affair, U.S. troops

3

Murphey and Serratore, "Reciprocating Steam Engines: U.S.S. Texas;"

3.

4

Sources differ on number of men and guns. These figures are accepted by the Battleship Texas Commission.

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CONTINUATION SHEET U.S.S. Texas ITEM NUMBER 8 PAGE two

briefly occupied Vera Cruz, and the Navy blockaded Mexican ports. Once the two countries resolved their difficulties, Texas underwent repairs in the New York Navy Yard and then spent 2 years engaged in fleet tactics and battle problems from the coast of New England south to the Caribbean Sea.

During the first few months after U.S. entry into World War I, the Navy utilized Texas in training engineers and gun crews for armed merchant ships, and it was at this time that Texas experienced what might have been a major embarrassment had the witnesses not included her sister ship New York. On September 28, 1917, the ship grounded near the north end of Block Island. For 3 days Texas' crew worked unsuccessfully to lighten the vessel and free her. The Navy then brought in tugboats to move the battlegoon, but they also failed to budge her until sailors watching from the nearby New York shouted in unison: "Come on, Texas!" As the cry went up, the huge ship moved slightly, and in no time it backed clear of the island. Since that day, "Come on, Texas!" has been the ship's battlecry.

In February 1918 Texas crossed the North Atlantic and joined other U.S. battleships in the 6th Battle Squadron of the British Grand Fleet. Until the cessation of hostilities Texas cruised off the British Isles to help meet any threat from the German Fleet. The war ended in November, and the following month Texas formed part of the honor escort that took President Woodrow Wilson into Brent, France.

Returning to New York for Christmas, Texas received routine repairs and in the summer joined the Pacific Fleet for maneuvers off the west coast. The veteran warship remained in the Pacific 5 years before steaming to Annapolis in 1924 to join a U.S. Naval Academy practice cruise to Europe. In 1925 Texas put in at the Norfolk Navy Yard for an extensive overhaul. Workmen converted her from a coal-burner to an oil-burner, removed her cagemasts and installed a high tripod foremast, and added antitorpedo blisters, more armour, and the first "electric gunnery director" put in any Navy vessel.

On September 1, 1927, Texas became the flagship of Adm. Charles F. Hughes, Commander of the U.S. Fleet, and for the next few months took part in combined maneuvers in the Caribbean and the Pacific. Back in New York by December, Texas was chosen to transport President Herbert Hoover to the Pan-American Conference in Havana, Cuba, in January 1928. After accomplishing this prestigious task, the ship spent the next 11 years along the eastern seaboard and in the Caribbean, with occasional maneuvers in the Pacific.

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CONTINUATION SHEET U.S.S. Texas ITEM NUMBER 8 PAGE three

When World War II erupted in Europe in September 1939, the Navy assigned Texas to the Atlantic Squadron, which soon became the nucleus of the Atlantic Fleet under the command of Adm. Ernest J. King. Following a series of "neutrality" patrols, the aging but still powerful battleship joined in convoy duty, and between January and July 1942, she escorted troop and supply vessels to the Panama Canal, West Africa, and Scotland. In August of that year, Texas became the flagship of Adm. Monroe Kelly and began preparing to take part in the Allied invasion of North Africa. Kelly commanded the Northern Attack Group, which on October 28 rendezvoused with Adm. H. Kent Hewitt's Western Naval Task Force. Consisting of 102 ships, this was the greatest U.S. war fleet yet assembled. During the ensuing landings, Texas' heavy guns were not needed, but her recently installed radio station broadcast in French the proclamations of President Franklin Roosevelt and Gen. Dwight Eisenhower. Over the next few days Texas rained shells on enemy reinforcement convoys, and one of her scout planes scored a direct hit, with a depth charge, on a German tank.

Between January 1943 and April 1944, Texas led six major troop convoys across the Atlantic and then entered Belfast Lough to get ready for the long-awaited invasion of France. On May 19, 1944, Eisenhower came aboard to address the officers and crew, and on June 6 Texas, now the flagship of Adm. Carleton F. Bryant's naval bombardment support group, took up her battle station off Omaha Beach. The effectiveness of the great ship, once the shelling began, is perhaps best described by Ernest Hemingway, who rode in the sixth wave of landing boats and wrote later that the soldiers "were watching the Texas with looks of surprise and happiness. . . . Under their steel helmets, they looked like pikemen of the Middle Ages to whose aid in battle had suddenly come some strange and unbelievable monster."<sup>5</sup> Before noon Texas destroyed six 155mm German guns on Pointe du Hoe, blasted numerous machine gun nests and pillboxes, and scored direct hits on four 155mm mortars and at least one mobile gun battery. After noon she reduced to rubble a group of fortified points near Vierville, where the initial landing had become stalled by snipers and Howitzers. "Texas' expenditure on D-day of 428 rounds of 14-inch and 254 rounds of 5-inch ammunition is" says naval historian Samuel Eliot Morison, "good evidence of her zeal."<sup>6</sup> The battleship per-

5

Quoted in Morison, The Invasion of France and Germany, 135.

6

Ibid., 148.

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CONTINUATION SHEET U.S.S. Texas ITEM NUMBER 8 PAGE four

formed similarly on succeeding days too. On June 25 she took on the German Battery Hamburg, probably the most powerful enemy strongpoint on Cotentin Peninsula, and despite having only half the range of the battery, knocked out one of its four guns and kept the rest occupied for hours. During the action, Texas took two shells, one of which was a dud, and suffered the only fatal casualty of her 34-year service.

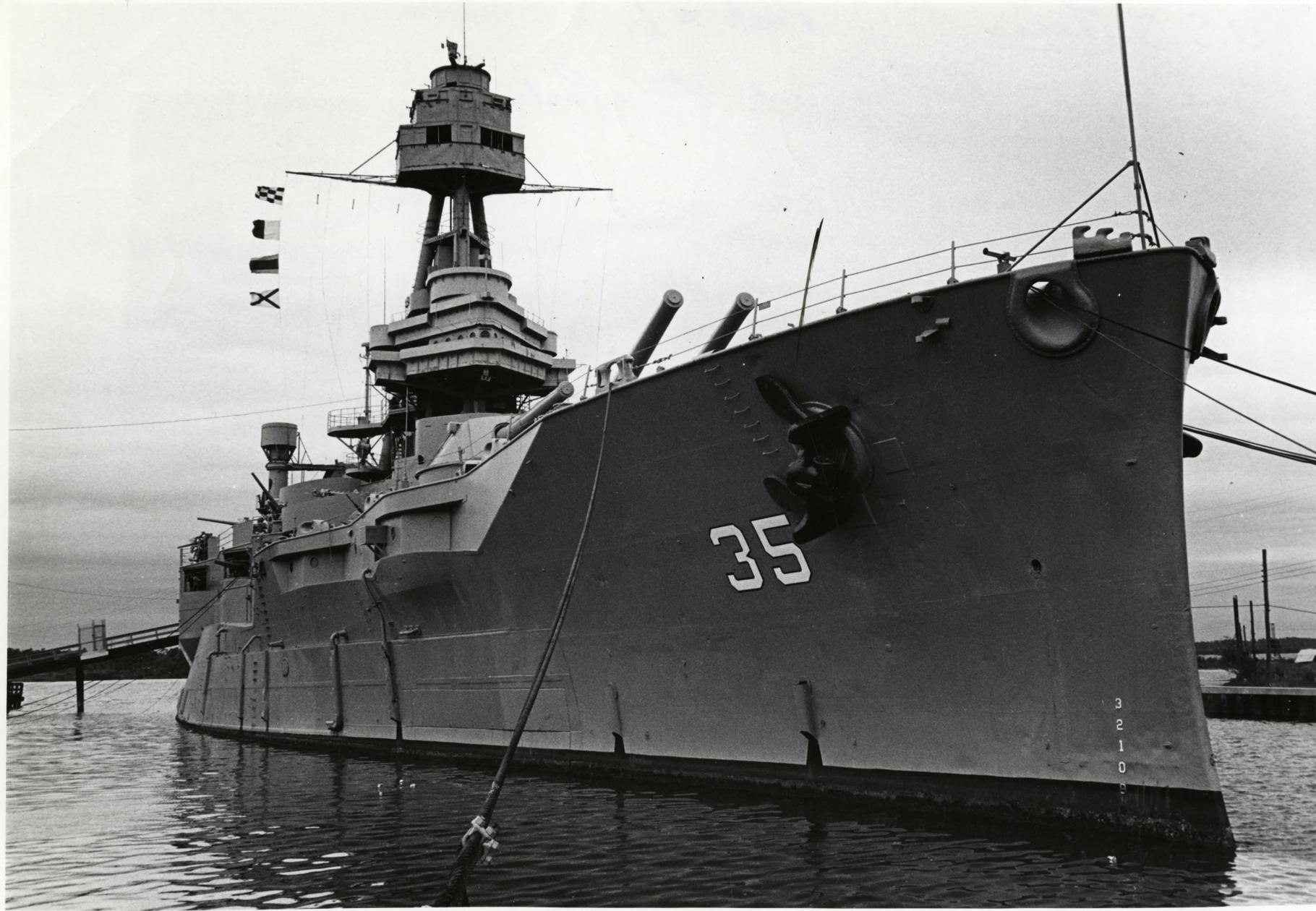
July 1944 found Texas off Algeria preparing for the invasion of southern France. Still Admiral Bryant's flagship, on August 15 she led what Morison calls "an unusually strong gunfire support group" for the landing of Gen. William W. Eagles' 45th Army Division.<sup>7</sup> Following a successful operation, Texas returned to New York for overhaul.

Adm. Isaac C. Sowell relieved Bryant in October as Commander of Battleship Division Five but retained Texas as its flagship. A month later she joined Missouri and Arkansas and steamed for the Pacific, where Adm. Peter K. Fishler replaced Sowell. By February 10, 1945, Texas was underway with Amphibious Task Force 52 to conduct battle rehearsals for the invasion of Iwo Jima, which began 6 days later. Here, as at Normandy, Texas performed brilliantly. She silenced several Japanese batteries, pounded the enemy battlefield, destroyed two aircraft on the ground, blasted at least three antiaircraft emplacements, and knocked out a radar control station. In March, April, and May, Texas participated effectively in a similar bombardment of Okinawa.

Late in September, following the Japanese surrender and several weeks of patrol duty, Texas sailed for the States. In subsequent weeks she made three round trips to Pearl Harbor to bring home 4,267 troops, and then she steamed to Norfolk Navy Yard to undergo preparation for inactivation. Her reciprocating steam engines had served her--as she had served the Nation--well. With the war over, though, she was deemed expendable. On April 21, 1948, the Government decommissioned the vessel and presented her to the State of Texas for preservation as a historic monument.

7

Ibid., 265.



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UNITED STATES DEPARTMENT OF THE INTERIOR  
NATIONAL PARK SERVICE

**NATIONAL REGISTER OF HISTORIC PLACES  
PROPERTY PHOTOGRAPH FORM**

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SEE INSTRUCTIONS IN *HOW TO COMPLETE NATIONAL REGISTER FORMS*  
TYPE ALL ENTRIES -- ENCLOSE WITH PHOTOGRAPH

**1 NAME**

HISTORIC

U.S.S. Texas

AND/OR COMMON

The Battleship Texas

**2 LOCATION**

CITY, TOWN

VICINITY OF Houston

STATE

Texas

COUNTY

Harris

**3 PHOTO REFERENCE**

PHOTO CREDIT

George R. Adams, AASLH

DATE OF PHOTO

March 1976

NEGATIVE FILED AT

Historic Sites Survey, NPS

**4 IDENTIFICATION**

DESCRIBE VIEW, DIRECTION, ETC. IF DISTRICT. GIVE BUILDING NAME & STREET

Starboard side and bow.

PHOTO NO. 1

UNITED STATES DEPARTMENT OF THE INTERIOR  
NATIONAL PARK SERVICE

**NATIONAL REGISTER OF HISTORIC PLACES  
PROPERTY MAP FORM**

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SEE INSTRUCTIONS IN *HOW TO COMPLETE NATIONAL REGISTER FORMS*  
TYPE ALL ENTRIES -- ENCLOSE WITH MAP

**1 NAME**

HISTORIC

U.S.S. Texas

AND/OR COMMON

The Battleship Texas

**2 LOCATION**

CITY, TOWN

VICINITY OF

Houston

COUNTY

Harris

STATE

Texas

**3 MAP REFERENCE**

SOURCE

U.S.G.S. 7.5' Series

Tex.; Highlands Quad.

SCALE

1:24,000

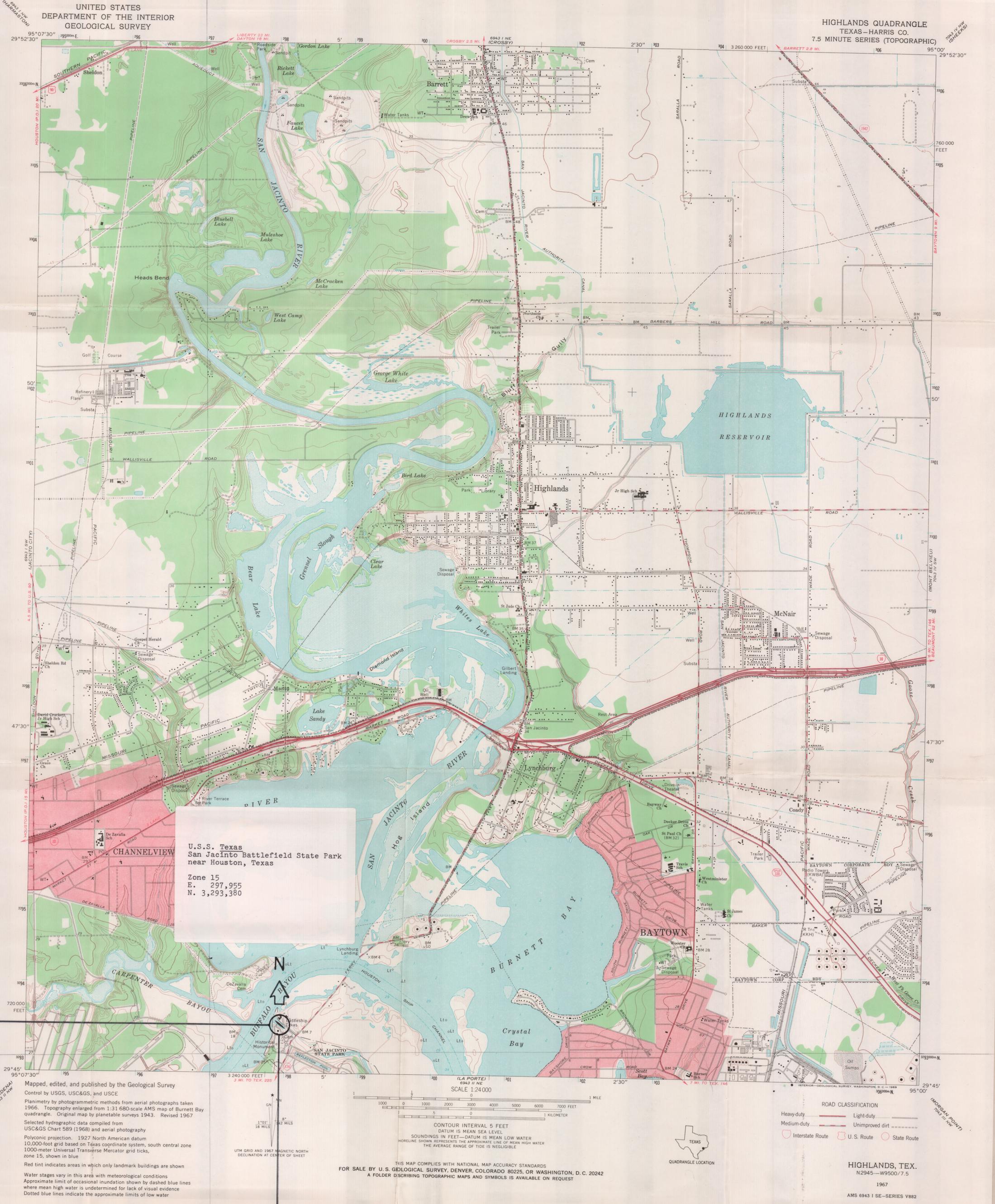
DATE

1967

**4 REQUIREMENTS**

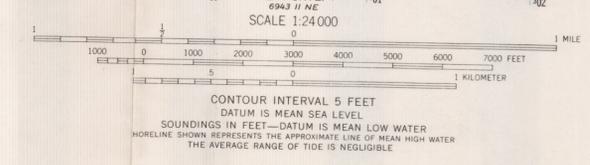
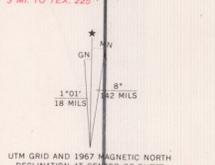
TO BE INCLUDED ON ALL MAPS

1. PROPERTY BOUNDARIES
2. NORTH ARROW
3. UTM REFERENCES



U.S.S. Texas  
San Jacinto Battlefield State Park  
near Houston, Texas  
Zone 15  
E. 297,955  
N. 3,293,380

Mapped, edited, and published by the Geological Survey  
Control by USGS, USC&GS, and USCE  
Planimetry by photogrammetric methods from aerial photographs taken 1965. Topography enlarged from 1:31 680-scale AMS map of Burnett Bay quadrangle. Original map by planetable surveys 1943. Revised 1967  
Selected hydrographic data compiled from USC&GS Chart 589 (1968) and aerial photography  
Polyconic projection. 1927 North American datum  
10,000-foot grid based on Texas coordinate system, south central zone  
1000-meter Universal Transverse Mercator grid ticks, zone 15, shown in blue  
Red tint indicates areas in which only landmark buildings are shown  
Water stages vary in this area with meteorological conditions  
Approximate limit of occasional inundation shown by dashed blue lines where mean high water is undetermined for lack of visual evidence  
Dotted blue lines indicate the approximate limits of low water



ROAD CLASSIFICATION

Heavy-duty	Light-duty
Medium-duty	Unimproved dirt
Interstate Route	U.S. Route
	State Route

THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS  
FOR SALE BY U.S. GEOLOGICAL SURVEY, DENVER, COLORADO 80225, OR WASHINGTON, D. C. 20242  
A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST

HIGHLANDS, TEX.  
N2945—W9500/7.5  
1967  
AMS 6943 I SE—SERIES V882



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**1 NAME**

HISTORIC U.S.S. Texas

AND/OR COMMON The Battleship Texas

*(19007)* *NMHL*

**2 LOCATION**

STREET & NUMBER San Jacinto Battleground State Park  
ca. 22 mi. east of Houston on Tex. 134

CITY, TOWN

VICINITY OF Houston

NOT FOR PUBLICATION  
CONGRESSIONAL DISTRICT 8

STATE

Texas

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**3 CLASSIFICATION**

CATEGORY	OWNERSHIP	STATUS	PRESENT USE
<input type="checkbox"/> DISTRICT	<input checked="" type="checkbox"/> PUBLIC	<input checked="" type="checkbox"/> OCCUPIED	<input type="checkbox"/> AGRICULTURE <input checked="" type="checkbox"/> MUSEUM
<input type="checkbox"/> BUILDING(S)	<input type="checkbox"/> PRIVATE	<input type="checkbox"/> UNOCCUPIED	<input type="checkbox"/> COMMERCIAL <input type="checkbox"/> PARK
<input type="checkbox"/> STRUCTURE	<input type="checkbox"/> BOTH	<input type="checkbox"/> WORK IN PROGRESS	<input checked="" type="checkbox"/> EDUCATIONAL <input type="checkbox"/> PRIVATE RESIDENCE
<input type="checkbox"/> SITE	<b>PUBLIC ACQUISITION.</b>	<b>ACCESSIBLE</b>	<input type="checkbox"/> ENTERTAINMENT <input type="checkbox"/> RELIGIOUS
<input checked="" type="checkbox"/> OBJECT	<input type="checkbox"/> IN PROCESS	<input checked="" type="checkbox"/> YES: RESTRICTED	<input type="checkbox"/> GOVERNMENT <input type="checkbox"/> SCIENTIFIC
	<input type="checkbox"/> BEING CONSIDERED	<input type="checkbox"/> YES: UNRESTRICTED	<input type="checkbox"/> INDUSTRIAL <input type="checkbox"/> TRANSPORTATION
		<input type="checkbox"/> NO	<input type="checkbox"/> MILITARY <input type="checkbox"/> OTHER

**4 OWNER OF PROPERTY** Contact: C.H. Taylor, Chairman

NAME State of Texas, The Battleship Texas Commission

STREET & NUMBER EXXON Building; Suite 2695

CITY, TOWN

Houston

VICINITY OF

STATE

Texas

**5 LOCATION OF LEGAL DESCRIPTION**

COURTHOUSE, REGISTRY OF DEEDS, ETC. The Battleship Texas Commission

STREET & NUMBER EXXON Building, Suite 2695

CITY, TOWN

Houston

STATE

Texas

**6 REPRESENTATION IN EXISTING SURVEYS**

TITLE ASME National Historical Mechanical Engineering Landmark Program

DATE 1975  FEDERAL  STATE  COUNTY  LOCAL national, private

DEPOSITORY FOR SURVEY RECORDS ASME United Engineering Center

CITY, TOWN

New York

STATE

New York

## 7 DESCRIPTION

CONDITION		CHECK ONE	CHECK ONE
<input type="checkbox"/> EXCELLENT	<input type="checkbox"/> DETERIORATED	<input type="checkbox"/> UNALTERED	<input type="checkbox"/> ORIGINAL SITE
<input checked="" type="checkbox"/> GOOD	<input type="checkbox"/> RUINS	<input checked="" type="checkbox"/> ALTERED	<input checked="" type="checkbox"/> MOVED DATE <u>1948</u>
<input type="checkbox"/> FAIR	<input type="checkbox"/> UNEXPOSED		

DESCRIBE THE PRESENT AND ORIGINAL (IF KNOWN) PHYSICAL APPEARANCE

Newport News Shipbuilding and Dry Dock Company built Texas (BB35) in 1911-14. Upon her completion she measured 573 feet long, was 94 3/4 feet wide at the beam, had a normal displacement of 27,000 tons and a mean draft of 28 1/2 feet, and boasted a top speed of 21 knots. She carried ten 14-inch guns, sixteen 5-inch guns, eight 3-inch guns, assorted anticraft weapons, three seaplanes launchable from a catapult, and a crew of 1,314.<sup>8</sup>

Texas was one of the last two American warships built with reciprocating steam engines, and she is the only surviving one. The engines, which drive twin screws, are four-cylinder, triple-expansion machines with a total designed horsepower of 28,100 at 125 revolutions per minute and steam at 265 pounds per square inch. Cylinder bores are: high pressure, 39 inches; intermediate pressure, 63 inches; and low pressure (two cylinders), 83 inches. All have a 48-inch stroke. Cylinder sequence is: forward low pressure, high pressure, intermediate pressure, and aft low pressure. Crank angles are 90° and the working sequence is high, intermediate, forward low, and aft low. Each high pressure cylinder has one piston valve, and each of the other cylinders has two. All are actuated by Stephenson's double-link valve gear. Cylinders and valve crests are cast iron; working liners are close-grained cast iron. The pistons, all conical, are cast steel, except the high pressure which is cast iron. Except for the high pressure, the cylinders are steam-jacketed around the liners and at both ends. Bedplates are cast steel, and framing consists of Navy-type forged steel columns bolted to the bedplate and cylinders and braced by diagonal, cross, and longitudinal stays.

All working and moving parts of the main engines, except the valve links and valve-stem guides, are force lubricated under a pressure of about 50 pounds per square inch. The crank pits are totally enclosed by galvanized sheet-steel casings within 18 inches of the bottoms of the cylinders. Steam is supplied by 15 Babcock and Wilcox water-tube boilers working at 295 pounds per square inch, throttled down to 265 pounds per square inch at the engines. The heating surface is 62,213 square feet and the grate area 1,554 square feet. Furnaces operate under closed fire-room forced draft with an ashpit pressure of 2 inches of water. Total machinery weight is 2,375 tons. The propellers are three-bladed; have manganese bronze blades; measure 18 feet, 7 1/2 inches in diameter; and have a pitch of 19 feet, 11 1/2 inches.<sup>9</sup>

<sup>8</sup> Murphey and Serratore, "Reciprocating Steam Engines: U.S.S. Texas," 3.

<sup>9</sup> Ibid., 5-6. Although still intact, Texas' engines are no longer operable.

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CONTINUATION SHEET U.S.S. Texas ITEM NUMBER 7 PAGE one

Initially Texas burned coal and used oil only as an auxiliary fuel in an emergency. During a major overhaul in 1925, the Navy converted the vessel to oil. At the same time workmen took down her two cagemasts, installed a high tripod foremast, and added advanced fire control equipment, more armor, and antitorpedo blisters.

At the end of World War II, the United States made major military cutbacks, and Texas appeared expendable. Rather than watch the gallant vessel mothballed or scrapped, Texans, led by Lloyd Gregory, created the Battleship Texas Commission and raised money to save her. Tugs towed the huge ship from Norfolk Navy Yard to Houston in 1948, and there the U.S. Government decommissioned her and presented her to the State for use as a historic monument.

Today Texas is permanently moored in a slip off the Houston Ship Channel on the edge of the San Jacinto Battleground State Park. Her only enemies now are air pollution and the weather. Constant exposure plus heavy tourist traffic and lack of a large crew of sailors for swabbing and polishing have led to deterioration of the ship's teakwood main deck, much of which is covered today with a concrete slab. Rust is a constant problem too, but Texas' curator and staff do a good job in combatting it. Many areas of the ship are open to the public, including the engine rooms, and several small museums are maintained aboard her. In 1975 the American Society of Mechanical Engineers declared Texas a National Mechanical Engineering Landmark for her reciprocating steam engines.

CONTINUATION SHEET U.S.S. Texas ITEM NUMBER 9 PAGE one

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Pratt, Fletcher, The Compact History of the United States Navy. Revised Edition (New York: Hawthorn Books, Inc., 1962).

# 8 SIGNIFICANCE

## RELATED TO BOTH THE MILITARY AND THE ENGINEERING THEMES.

PERIOD	AREAS OF SIGNIFICANCE -- CHECK AND JUSTIFY BELOW			
<input type="checkbox"/> PREHISTORIC	<input type="checkbox"/> ARCHEOLOGY-PREHISTORIC	<input type="checkbox"/> COMMUNITY PLANNING	<input type="checkbox"/> LANDSCAPE ARCHITECTURE	<input type="checkbox"/> RELIGION
<input type="checkbox"/> 1400-1499	<input type="checkbox"/> ARCHEOLOGY-HISTORIC	<input type="checkbox"/> CONSERVATION	<input type="checkbox"/> LAW	<input type="checkbox"/> SCIENCE
<input type="checkbox"/> 1500-1599	<input type="checkbox"/> AGRICULTURE	<input type="checkbox"/> ECONOMICS	<input type="checkbox"/> LITERATURE	<input type="checkbox"/> SCULPTURE
<input type="checkbox"/> 1600-1699	<input type="checkbox"/> ARCHITECTURE	<input type="checkbox"/> EDUCATION	<input checked="" type="checkbox"/> MILITARY	<input type="checkbox"/> SOCIAL/HUMANITARIAN
<input type="checkbox"/> 1700-1799	<input type="checkbox"/> ART	<input checked="" type="checkbox"/> ENGINEERING	<input type="checkbox"/> MUSIC	<input type="checkbox"/> THEATER
<input type="checkbox"/> 1800-1899	<input type="checkbox"/> COMMERCE	<input type="checkbox"/> EXPLORATION/SETTLEMENT	<input type="checkbox"/> PHILOSOPHY	<input type="checkbox"/> TRANSPORTATION
<input checked="" type="checkbox"/> 1900-	<input type="checkbox"/> COMMUNICATIONS	<input type="checkbox"/> INDUSTRY	<input type="checkbox"/> POLITICS/GOVERNMENT	<input type="checkbox"/> OTHER (SPECIFY)
		<input type="checkbox"/> INVENTION		

SPECIFIC DATES      1910-1948      BUILDER/ARCHITECT      Newport News Shipbuilding and Dry Dock Company

### STATEMENT OF SIGNIFICANCE

When completed in 1914, the U.S.S. Texas (BB35) was one of the last two American-built warships powered by reciprocating steam engines. Today she is the only surviving one. Navy guns and planes sent Texas' sister ship, U.S.S. New York, to the bottom of the Pacific Ocean during a training exercise in 1948.

In addition to making Texas unique, her reciprocating steam engines, which the American Society of Mechanical Engineers calls the "most sophisticated" of their class, make the vessel a symbol of the rapid evolution of steam power in U.S. warships between the 1880's and the first decade of the 20th century.<sup>1</sup> Although one-quarter of all Navy ships had steam power by 1850, naval authorities did not fully accept steam for major vessels until the 1870's. Once adopting steam power for capital ships, however, the Navy moved quickly from reciprocating to turbine engines. When Texas and New York were authorized in 1910, the Navy already had three turbine-powered battleships and selected reciprocating engines for the two new vessels largely to force turbine builders to adopt improved designs.

In 34 years of service Texas not only proved the durability of its engines but performed outstandingly in both the First and Second World Wars. In World War I Texas joined the 6th Battle Squadron of the British Grand Fleet in protecting the British Isles, and in World War II the still formidable vessel escorted several Atlantic convoys, participated in the North African and Normandy invasions in the Atlantic Theater, and assisted in the preinvasion bombardments of Iwo Jima and Okinawa in the Pacific Theater. Of the Normandy action, Ernest Hemingway, who observed the scene, wrote that while Texas fired 14-inch shells at enemy defenses, soldiers approaching the beach in landing craft watched the ship's flashing guns with both surprise and great joy. "Under their steel helmets," he said of the troops, "they looked like pikemen of the Middle Ages to whose aid in battle had suddenly come some strange and unbelievable monster."<sup>2</sup>

<sup>1</sup> Carey Murphey and Peter Serratore, "Reciprocating Steam Engines: U.S.S. Texas." Mimeographed (New York, 1975), 3.

<sup>2</sup> Quoted in Samuel Eliot Morison, The Invasion of France and Germany, 1944-45 (Boston, 1957), 135.

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CONTINUATION SHEET U.S.S. Texas ITEM NUMBER 8 PAGE one

Decommissioned in 1948, the 573-foot-long, 34,000-ton Texas now lies permanently moored in a slip off the Houston Ship Channel on the edge of San Jacinto Battleground State Park.

History

The U.S.S. Texas (BB35) is the second battleship named for the Lone Star State. Workmen at Norfolk Navy Yard built the first one in 1892-95. It played a leading role in naval operations in the Caribbean during the Spanish-American War and was decommissioned and sunk in 1911. By that time Congress had authorized construction of the second Texas and two other new battleships--New York and Oklahoma.

For the new Texas, destiny saved a special niche in shipbuilding history. Having opposed for years the use of steam to power its capital ships, the Navy Department had accepted it in the 1880's and, following a rapid evolution in engine design, had concluded that steam turbines represented the engines of the future. By 1910 the U.S. Fleet included three turbine-powered battleships, and eventually Oklahoma would be the fourth. For Texas and New York, however, the Navy reverted to reciprocating steam engines largely to force turbine builders to improve future designs according to Navy specifications. When completed, Texas and New York had, according to the American Society of Mechanical Engineers, "the last, and most sophisticated, reciprocating steam engines" installed in American warships.<sup>3</sup> Today only Texas survives, New York having been decommissioned and sunk in 1948.

Building Texas at a bid price of \$5,830,000, Newport News Shipbuilding and Dry Dock Company laid the vessel's keel in April 1911 and launched the new ship in May 1912. The Navy commissioned her in March 1914. Upon her completion Texas measured 573 feet long, was 94 3/4 feet wide at the beam, had a normal displacement of 27,000 tons and a mean draft of 28 1/2 feet, and boasted a top speed of 21 knots. She carried ten 14-inch guns, sixteen 5-inch guns, eight 3-inch guns, assorted anticraft weapons, three seaplanes launchable from a catapult, and a crew of 1,314.<sup>4</sup>

Texas' first cruise began May 19, 1914, and took the warship to the eastern coast of Mexico, where following the Tampico Affair, U.S. troops

<sup>3</sup>  
Murphey and Serratore, "Reciprocating Steam Engines: U.S.S. Texas,"  
3.

<sup>4</sup>  
Sources differ on number of men and guns. These figures are  
accepted by the Battleship Texas Commission.

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CONTINUATION SHEET U.S.S. Texas ITEM NUMBER 8 PAGE two

briefly occupied Vera Cruz, and the Navy blockaded Mexican ports. Once the two countries resolved their difficulties, Texas underwent repairs in the New York Navy Yard and then spent 2 years engaged in fleet tactics and battle problems from the coast of New England south to the Caribbean Sea.

During the first few months after U.S. entry into World War I, the Navy utilized Texas in training engineers and gun crews for armed merchant ships, and it was at this time that Texas experienced what might have been a major embarrassment had the witnesses not included her sister ship New York. On September 28, 1917, the ship grounded near the north end of Block Island. For 3 days Texas' crew worked unsuccessfully to lighten the vessel and free her. The Navy then brought in tugboats to move the battlegoon, but they also failed to budge her until sailors watching from the nearby New York shouted in unison: "Come on, Texas!" As the cry went up, the huge ship moved slightly, and in no time it backed clear of the island. Since that day, "Come on, Texas!" has been the ship's battlecry.

In February 1918 Texas crossed the North Atlantic and joined other U.S. battleships in the 6th Battle Squadron of the British Grand Fleet. Until the cessation of hostilities Texas cruised off the British Isles to help meet any threat from the German Fleet. The war ended in November, and the following month Texas formed part of the honor escort that took President Woodrow Wilson into Brent, France.

Returning to New York for Christmas, Texas received routine repairs and in the summer joined the Pacific Fleet for maneuvers off the west coast. The veteran warship remained in the Pacific 5 years before steaming to Annapolis in 1924 to join a U.S. Naval Academy practice cruise to Europe. In 1925 Texas put in at the Norfolk Navy Yard for an extensive overhaul. Workmen converted her from a coal-burner to an oil-burner, removed her cagemasts and installed a high tripod foremast, and added antitorpedo blisters, more armour, and the first "electric gunnery director" put in any Navy vessel.

On September 1, 1927, Texas became the flagship of Adm. Charles F. Hughes, Commander of the U.S. Fleet, and for the next few months took part in combined maneuvers in the Caribbean and the Pacific. Back in New York by December, Texas was chosen to transport President Herbert Hoover to the Pan-American Conference in Havana, Cuba, in January 1928. After accomplishing this prestigious task, the ship spent the next 11 years along the eastern seaboard and in the Caribbean, with occasional maneuvers in the Pacific.

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When World War II erupted in Europe in September 1939, the Navy assigned Texas to the Atlantic Squadron, which soon became the nucleus of the Atlantic Fleet under the command of Adm. Ernest J. King. Following a series of "neutrality" patrols, the aging but still powerful battleship joined in convoy duty, and between January and July 1942, she escorted troop and supply vessels to the Panama Canal, West Africa, and Scotland. In August of that year, Texas became the flagship of Adm. Monroe Kelly and began preparing to take part in the Allied invasion of North Africa. Kelly commanded the Northern Attack Group, which on October 28 rendezvoused with Adm. H. Kent Hewitt's Western Naval Task Force. ~~Consisting~~ of 102 ships, this was the greatest U.S. war fleet yet assembled. During the ensuing landings, Texas' heavy guns were not needed, but her recently installed radio station broadcast in French the proclamations of President Franklin Roosevelt and Gen. Dwight Eisenhower. Over the next few days Texas rained shells on enemy reinforcement convoys, and one of her scout planes scored a direct hit, with a depth charge, on a German tank.

Between January 1943 and April 1944, Texas led six major troop convoys across the Atlantic and then entered Belfast Lough to get ready for the long-awaited invasion of France. On May 19, 1944, Eisenhower came aboard to address the officers and crew, and on June 6 Texas, now the flagship of Adm. Carleton F. Bryant's naval bombardment support group, took up her battle station off Omaha Beach. The effectiveness of the great ship, once the shelling began, is perhaps best described by Ernest Hemingway, who rode in the sixth wave of landing boats and wrote later that the soldiers "were watching the Texas with looks of surprise and happiness. . . . Under their steel helmets, they looked like pikemen of the Middle Ages to whose aid in battle had suddenly come some strange and unbelievable monster."<sup>5</sup> Before noon Texas destroyed six 155mm German guns on Pointe du Hoe, blasted numerous machine gun nests and pillboxes, and scored direct hits on four 155mm mortars and at least one mobile gun battery. After noon she reduced to rubble a group of fortified points near Vierville, where the initial landing had become stalled by snipers and Howitzers. "Texas' expenditure on D-day of 428 rounds of 14-inch and 254 rounds of 5-inch ammunition is" says naval historian Samuel Eliot Morison, "good evidence of her zeal."<sup>6</sup> The battleship per-

5

Quoted in Morison, The Invasion of France and Germany, 135.

6

Ibid., 148.

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CONTINUATION SHEET U.S.S. Texas ITEM NUMBER 8 PAGE four

formed similarly on succeeding days too. On June 25 she took on the German Battery Hamburg, probably the most powerful enemy strongpoint on Cotentin Peninsula, and despite having only half the range of the battery, knocked out one of its four guns and kept the rest occupied for hours. During the action, Texas took two shells, one of which was a dud, and suffered the only fatal casualty of her 34-year service.

July 1944 found Texas off Algeria preparing for the invasion of southern France. Still Admiral Bryant's flagship, on August 15 she led what Morison calls "an unusually strong gunfire support group" for the landing of Gen. William W. Eagles' 45th Army Division.<sup>7</sup> Following a successful operation, Texas returned to New York for overhaul.

Adm. Isaac C. Sowell relieved Bryant in October as Commander of Battleship Division Five but retained Texas as its flagship. A month later she joined Missouri and Arkansas and steamed for the Pacific, where Adm. Peter K. Fishler replaced Sowell. By February 10, 1945, Texas was underway with Amphibious Task Force 52 to conduct battle rehearsals for the invasion of Iwo Jima, which began 6 days later. Here, as at Normandy, Texas performed brilliantly. She silenced several Japanese batteries, pounded the enemy battlefield, destroyed two aircraft on the ground, blasted at least three anti-aircraft emplacements, and knocked out a radar control station. In March, April, and May, Texas participated effectively in a similar bombardment of Okinawa.

Late in September, following the Japanese surrender and several weeks of patrol duty, Texas sailed for the States. In subsequent weeks she made three round trips to Pearl Harbor to bring home 4,267 troops, and then she steamed to Norfolk Navy Yard to undergo preparation for inactivation. Her reciprocating steam engines had served her--as she had served the Nation--well. With the war over, though, she was deemed expendable. On April 21, 1948, the Government decommissioned the vessel and presented her to the State of Texas for preservation as a historic monument.

<sup>7</sup>  
Ibid., 265.

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Blount, William J. (illus.), "U.S.S. Texas." Diagram (Houston: The Battleship Texas Commission, 1971).

(cont.)

**10 GEOGRAPHICAL DATA**

ACREAGE OF NOMINATED PROPERTY \_\_\_\_\_

UTM REFERENCES

A	1,5	29,79,5,5	3,29,33,8,0	B			
	ZONE	EASTING	NORTHING		ZONE	EASTING	NORTHING
C				D			

VERBAL BOUNDARY DESCRIPTION

LIST ALL STATES AND COUNTIES FOR PROPERTIES OVERLAPPING STATE OR COUNTY BOUNDARIES

STATE	CODE	COUNTY	CODE

**11 FORM PREPARED BY**

NAME / TITLE

George R. Adams, Managing Editor

ORGANIZATION

American Association for State and Local History

DATE

April 1976

STREET & NUMBER

1400 Eighth Avenue South

TELEPHONE

615-242-5583

CITY OR TOWN

Nashville

STATE

Tennessee

**12 STATE HISTORIC PRESERVATION OFFICER CERTIFICATION**

THE EVALUATED SIGNIFICANCE OF THIS PROPERTY WITHIN THE STATE IS:

NATIONAL \_\_\_\_\_

STATE \_\_\_\_\_

LOCAL \_\_\_\_\_

As the designated State Historic Preservation Officer for the National Historic Preservation Act of 1966 (Public Law 89-665), I hereby nominate this property for inclusion in the National Register and certify that it has been evaluated according to the criteria and procedures set forth by the National Park Service.

FEDERAL REPRESENTATIVE SIGNATURE

TITLE

DATE

**FOR NPS USE ONLY**

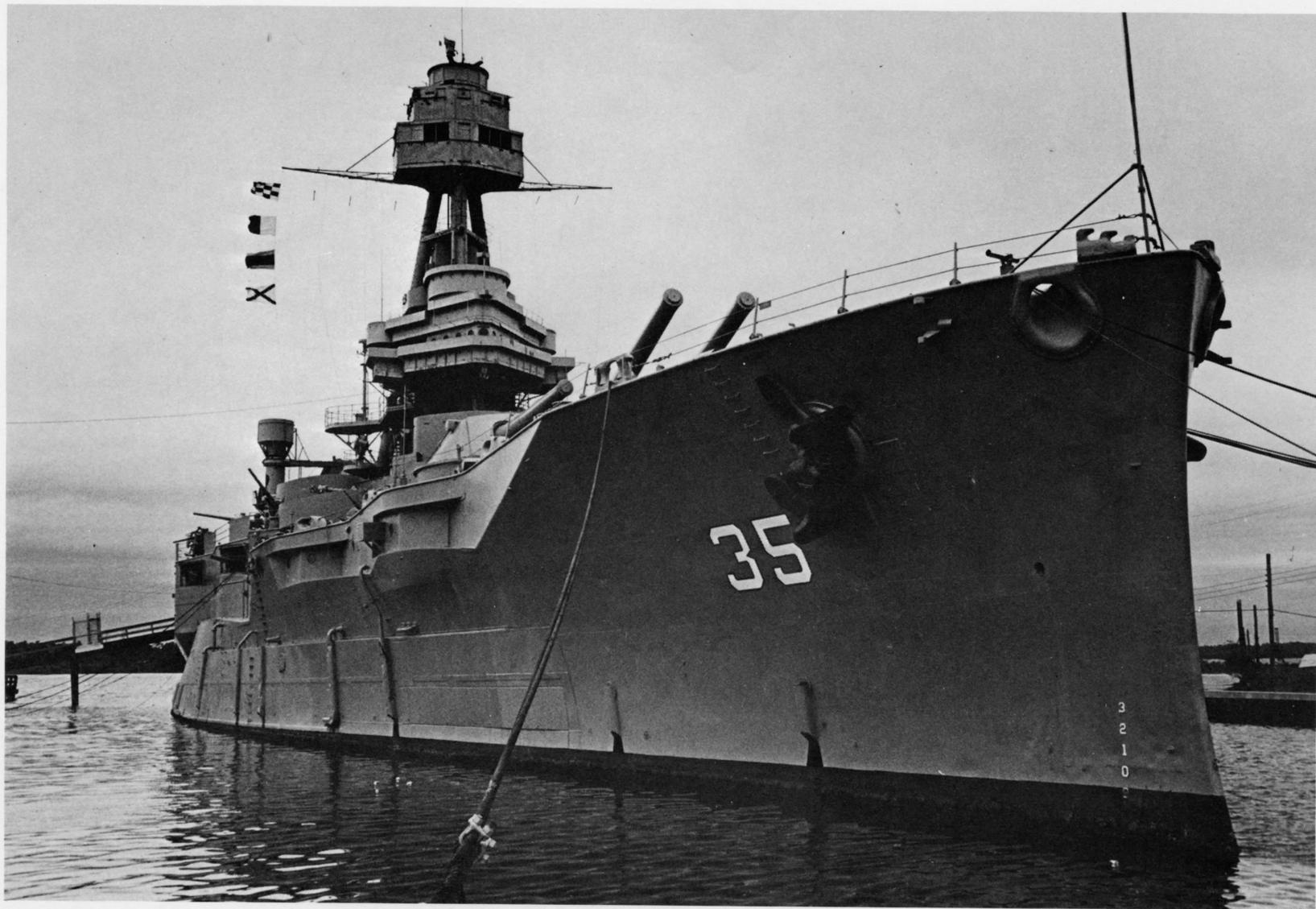
I HEREBY CERTIFY THAT THIS PROPERTY IS INCLUDED IN THE NATIONAL REGISTER

DATE \_\_\_\_\_

DIRECTOR, OFFICE OF ARCHEOLOGY AND HISTORIC PRESERVATION

ATTEST: \_\_\_\_\_ DATE \_\_\_\_\_

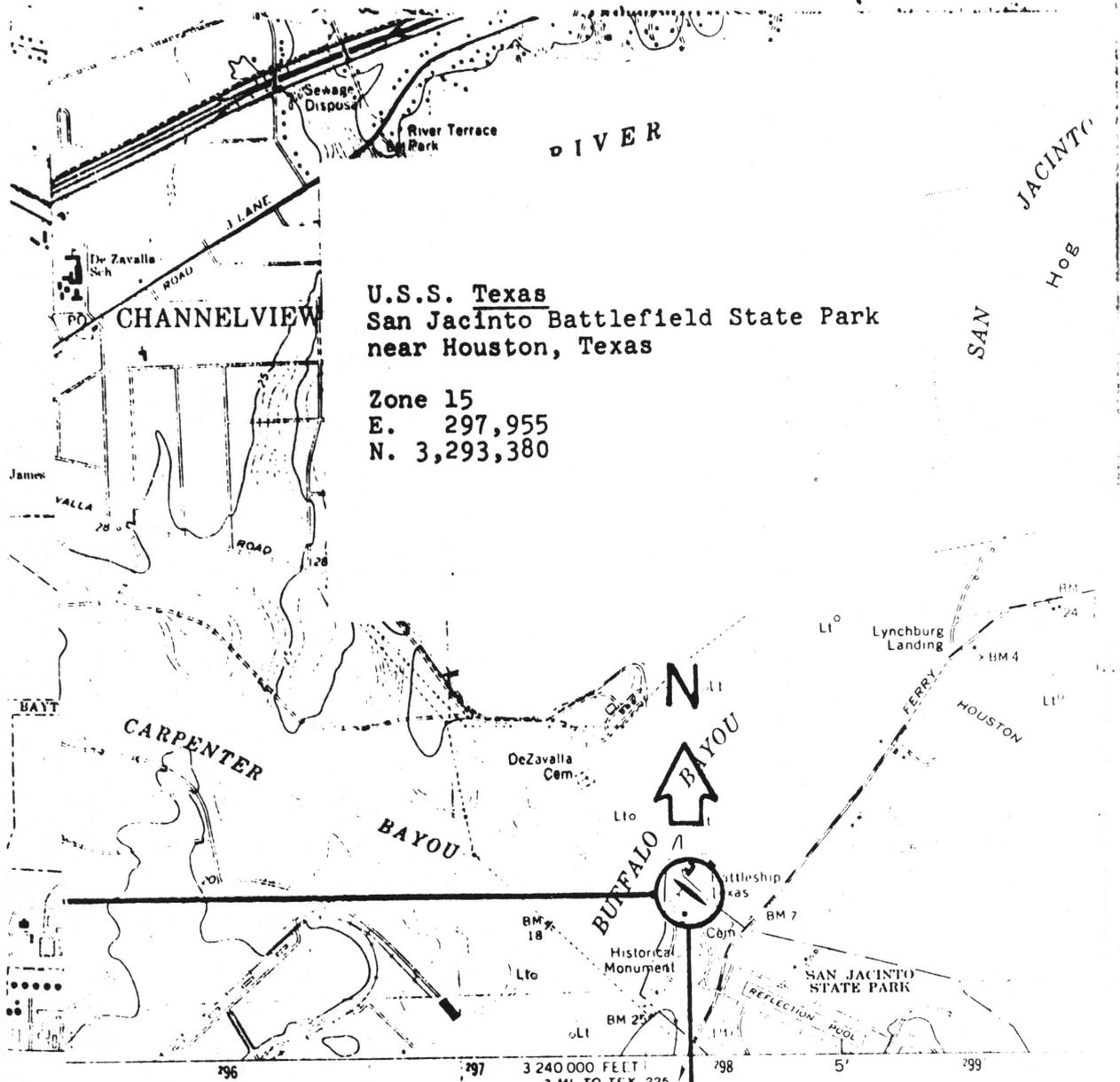
KEEPER OF THE NATIONAL REGISTER



U.S.S. Texas, San Jacinto Battleground State Park, Texas

March 1976

Photo: AASLH



**U.S.S. Texas**  
**San Jacinto Battlefield State Park**  
**near Houston, Texas**

**Zone 15**  
**E. 297,955**  
**N. 3,293,380**

Published by the Geological Survey

and USCE

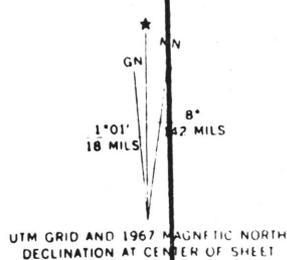
Topographic methods from aerial photographs taken  
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 by planetable surveys 1943. Revised 1967

Compiled from  
 and aerial photography

North American datum  
 Texas coordinate system, south central zone  
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 with meteorological conditions  
 and inundation shown by dashed blue lines  
 determined for lack of visual evidence  
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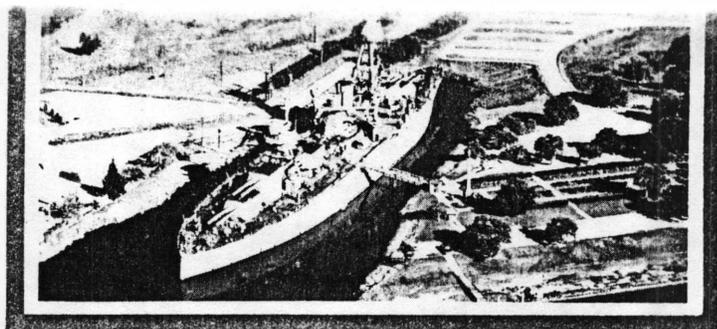
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For 28 years the great hero of two world wars has been a Historical Naval Museum. As you know, she is berthed in the shadow of the San Jacinto Monument of the Houston Ship Channel about 29 minutes from downtown Houston off Highway 225.

The Battleship Texas' destiny is in the hands of a nine-member commission created for the purpose of preserving this 62-year old fighting ship that helped carry our country to victory through heavy action in the North Atlantic during World War I and in both the European and Asian theatres during World War II.

With inflation and the fuel shortage, we need more funds to sustain her. These come from the \$1 adult and 50¢ children admissions we charge visitors. We get no funds from any other source other than private donations.

The Battleship Commission joins me in asking you if you can help by running the enclosed public service news story in your paper. This could be one of our best months and your cooperation will certainly be appreciated now--not only by the Commission, but by every American who wants to preserve the heritage of this gallant ship that bears the name of our great State of Texas.

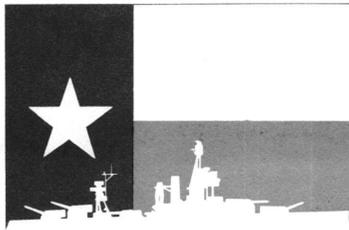
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CAPTAIN OF THE SHIP  
OLAN F. (Cotton) HORN, TREASURER  
ANN HOGAN, SECRETARY  
713/225-5013

Thanks from all of us to you and your newspaper for your help.

Cordially,

Member, Battleship Texas Commission  
Chairman, Public Information Committee



THE BATTLESHIP TEXAS COMMISSION

January 3, 1976

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Captain of the Ship

Olan F. Horn  
Treasurer

Ann Hogan  
Secretary  
713-965-0838

Mr. Gary Everhardt, Director  
U. S. Department of the Interior  
National Park Service  
Washington, D. C. 20240

Dear Mr. Everhardt:

Thank you for your letter of December 28, 1976 of which the original was sent to the Honorable Dolph Briscoe, Governor of Texas and a copy to me. You will note in the enclosed photo copy of your correspondence whereas you stated "Enclosed are copies of the agreement. The form should be completed in triplicate and two copies returned to the National Park Service. The third copy may be retained for your records." We did not receive in said correspondence any forms so that we may fill out and return to you.

It would be greatly appreciated if your Department would forward all necessary forms to the Battleship TEXAS Commission, 3461 West Alabama Suite C, Houston, Texas 77027. The Battleship TEXAS Commission and the people of Texas are greatly honored that your Department has found the Battleship TEXAS of historic prominence to be designated as a National Historic Landmark and you can be assured that the Commission will live up to its responsibilities in maintaining this shrine to the best of our ability.

With kindest personal regards,

Very truly yours,

Ralph F. Block, Chairman  
Battleship TEXAS Commission  
RFB/ah

March 5, 1976

~~Admiral C. H. Taylor~~, Chairman  
Battleship Texas Commission  
Exxon Building, Suite 2695  
Houston, Texas 77002

Dear Admiral Taylor:

Thanks very much for the photographs. Your aerial views will nicely complement the ground-level photo that I took.

Captain Spike Taylor reported correctly. I was impressed with the ship, and I will send you a copy of our report when it is ready.

Gratefully,

George R. Adams  
Managing Editor  
Historic Landmarks Project

GRA:mjg

March 5, 1976

Captain Spike Taylor  
Battleship Texas  
P. O. Box 868  
LaPorte, Texas 77571

Dear Captain Taylor:

Thanks again for the fascinating tour of the Texas-- and for the "sea stories" as well. I took numerous photographs before departing, but we can still use an aerial view if one can be found. If possible we'd like to know the date and photographer of any print you might decide to send us.

I might add that I also thoroughly enjoyed finding a herd of Razorbacks deep in the heart of Texas. I'll follow John Taylor more closely next fall.

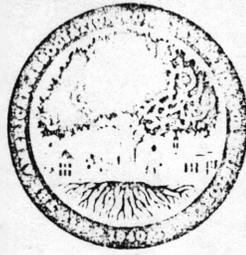
Cordially,

George R. Adams  
Managing Editor  
Historic Landmarks Project

GRA:mjg  
enclosures

EncS. Admiral Taylor sent us the necessary pictures.

cc: Admiral C. H. Taylor, Chairman  
Battleship Texas Commission



March 12, 1976

Mr. C. H. Taylor, Curator  
Battleship Texas Museum  
Exxon Building, Room 2695  
Houston, Texas 77008

Dear Mr. Taylor:

At the request of the National Park Service, we are preparing a series of reports on potential National Historic Landmarks related to the theme Political and Military Affairs 1900 to 1929. The Texas Historical Commission has recommended the U.S.S. Texas to us as a site of particular significance, and accordingly I wish to visit it for the purpose of gathering descriptive data and determining whether it should be included in our study.

During the last week of this month, I will be visiting potential landmarks in several southern and southwestern states, and I will be in Houston on March 30. I would appreciate the opportunity of touring the vessel that day, beginning if possible at approximately 9:00 a.m. If reduced diagrams of the ship's layout could be made available, they would prove most helpful.

For your information and convenience, I am enclosing a park Service brochure that describes the NHL program. If you have further questions, please do not hesitate to call. In any case, we look forward to hearing from you by March 26.

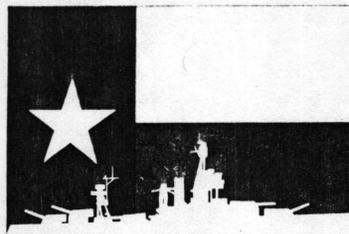
Sincerely,

George R. Adams  
Managing Editor  
Historic Landmarks Project

cc: Lloyd J. Gregory  
AMERICAN ASSOCIATION FOR STATE AND LOCAL HISTORY

1400 Eighth Avenue South • Nashville, Tennessee 37203 • Telephone [615] 242-5583

Enclosure



THE BATTLESHIP TEXAS COMMISSION

March 16, 1976

SAN JACINTO BATTLE GROUNDS

FLAGSHIP OF THE TEXAS NAVY

Open Every Day of the Year  
May 1 — Labor Day: 10 a.m. — 7 p.m.  
Labor Day — April 30: 11 a.m. — 5 p.m.

CHAIRMAN EMERITUS  
Lloyd J. Gregory

COMMISSION

C. H. Taylor, Chairman  
RADM, USNR (RET.)  
Exxon Bldg. Suite 2695  
Houston, Texas 77002  
713/225-5013

Robert N. Aylin, Sr.  
Houston

Ralph F. Block  
Houston

Mrs. Murray Ezzell  
Port Neches

Jos. B. Hutchison  
Tyler

Joe L. Matthews  
Fort Worth

T. C. Selman  
Freeport

Frank E. Tritico  
Houston

Mrs. Mack J. Webb  
El Campo

STAFF

CDR A. G. Taylor, USCG (RET.)  
Captain of the Ship

Olan F. Horn,  
Treasurer

Ann Hogan  
Secretary  
713/225-5013

Mr. George R. Adams  
Managing Editor  
Historic Landmarks Project  
AMERICAN ASSOC. FOR STATE  
& LOCAL HISTORY  
1400 Eighth Avenue South  
Nashville, Tennessee 37203

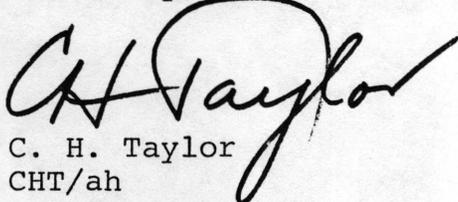
Dear Mr. Adams:

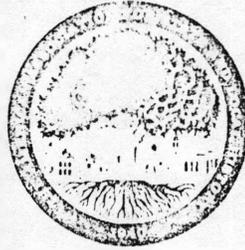
Thank you for your letter of March 12. We look forward with great anticipation to your visit to the Battleship TEXAS on 30 March, 1976. Captain Spike Taylor will be honored to be your escort starting at 9 a.m. on that day and if at all possible I will make an effort to accompany you. If it is convenient for you to have lunch in Houston on that date, please be my guest at my office at 12 noon.

We are enclosing a set of blue prints of the ship which may be of some help to you in advance. Also we are enclosing two of the brochures which we have recently had printed and a Xerox copy of the story of the American Society of Mechanical Engineers award to the Battleship TEXAS this past summer.

We hope you will enjoy your visit to Houston and that we can contribute mightily to that enjoyment.

Sincerely,

  
C. H. Taylor  
CHT/ah



March 19, 1976

Mr. C.H. Taylor, Chairman  
Battleship Texas Commission  
Exxon Building, Suite 2695  
Houston, Texas 77002

Dear Mr. Taylor:

Thank you for sending the extremely helpful packet of information about the Texas. Thanks also for the invitation to lunch. I doubt that I will complete my work in time to join you, but I will at least call you before I leave and give you an opportunity to ask any additional questions that you might have about the NHL program and our project.

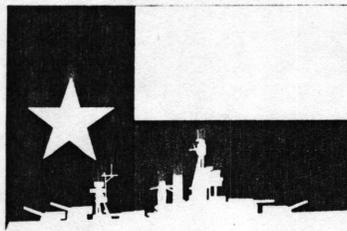
Gratefully,

George R. Adams  
Managing Editor  
Historic Landmarks project

GRA/mjg

AMERICAN ASSOCIATION FOR STATE AND LOCAL HISTORY

1400 Eighth Avenue South • Nashville, Tennessee 37203 • Telephone [615] 242-5583



THE BATTLESHIP TEXAS COMMISSION

April 1, 1976

Rec'd  
4-5-76

SAN JACINTO BATTLE GROUNDS

FLAGSHIP OF THE TEXAS NAVY

Open Every Day of the Year  
May 1 — Labor Day: 10 a.m. — 7 p.m.  
Labor Day — April 30: 11 a.m. — 5 p.m.

CHAIRMAN EMERITUS  
Lloyd J. Gregory

COMMISSION

C. H. Taylor, Chairman  
RADM, USNR (RET.)  
Exxon Bldg. Suite 2695  
Houston, Texas 77002  
713/225-5013

Robert N. Aylin, Sr.  
Houston

Ralph F. Block  
Houston

Mrs. Murray Ezzell  
Port Neches

Jos. B. Hutchison  
Tyler

Joe L. Matthews  
Fort Worth

T. C. Selman  
Freeport

Frank E. Tritico  
Houston

Mrs. Mack J. Webb  
El Campo

STAFF

CDR A. G. Taylor, USCG (RET.)  
Captain of the Ship

Olan F. Horn,  
Treasurer

Ann Hogan  
Secretary  
713/225-5013

Mr. George R. Adams  
AMERICAN ASSOC. FOR STATE  
AND LOCAL HISTORY  
1315 Eighth Ave. South  
Nashville, Tenn. 37203

Dear Mr. Adams:

Thank you very much for the visit to the Battleship TEXAS on Tuesday March 30. Captain Spike Taylor enjoyed telling you about the ship and he indicated that your interest in our Old Lady was quite keen and complimentary.

Enclosed please find three black and white photos which Spike indicated you have need of. If for any reason more are required please do not hesitate to call upon us.

We look forward to a return visit by you when you can spend more time getting acquainted with us.

Sincerely,

C. H. Taylor  
CHT/ah

May 7, 1976

Admiral C. H. Taylor, Chairman  
Battleship Texas Commission  
Exxon Building, Suite 2695  
Houston, Texas 77002

Dear Admiral Taylor:

Enclosed for your files is a copy, which we hope you will share with Captain Spike Taylor, of our nomination of the U.S.S. Texas as a National Historic Landmark. Also enclosed with our thanks are the photographs that we did not use. The aerial view of the stern is now part of the Park Service files in Washington, duly credited to the commission and its photographer, of course.

The nomination will come up for review in late fall. Two NPS committees will have to approve NHL recognition for the ship before the Secretary of the Interior can declare it eligible for such recognition. Public announcement of the decision is sometimes delayed several months, so if you would care to query us near the end of November perhaps we can give you a preliminary indication of what to expect.

We remain impressed with the Texas and grateful for your assistance.

Cordially,

George R. Adams  
Managing Editor  
Historic Landmarks Project

GRA:mjg

Enclosures



U.S.S. TEXAS (THE BATTLE SHIP TEXAS)

Texas Historical Commission  
Box 12276, Capitol Station  
Austin, Texas 78711  
Truett Latimer  
Executive Director

NHL

NOV 24 1976

November 22, 1976

Mr. George R. Adams  
Managing Editor  
Historic Landmarks Project  
American Association for  
State and Local History  
1315 Eighth Avenue, South  
Nashville, Tennessee 37203

Re: U. S.S. Texas

Dear Mr. Adams:

For any contact on the above property please address:

Mr. Ralph Block, Chairman  
Battleship Texas Commission  
3461 West Alabama, Suite C  
Houston, Texas 77027

This is a change in the chairman and in his address.

Sincerely,

*JRW*

Joe R. Williams  
Director, National  
Register Programs  
for Texas

JRW/pbs



November 30, 1976

Mr. Benjamin Levy  
Senior Historian  
Historics Sites Survey  
National Park Service  
Department of the Interior  
Washington, D.C. 20240

Dear Ben:

The Texas Historical Commission has notified us that any subsequent correspondence regarding the U.S.S. Texas should be directed to Mr. Ralph Block, Chairman, Battle-ship Texas Commission, 3461 West Alabama, Suite C, Houston, Texas, 77027. This is a change in the chairman and his address.

Sincerely,

George R. Adams  
Director  
Historic Landmarks Project

GRA:dg

cc: Joe R. Williams

P.S. We see that the 1976 edition of the National Register is off the press. Can you secure a couple of copies for us?

AMERICAN ASSOCIATION FOR STATE AND LOCAL HISTORY

1400 Eighth Avenue South • Nashville, Tennessee 37203 • Telephone [615] 242-5583

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National Archives and  
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ALEXANDER J. WALL  
Old Sturbridge Village

MERLE WELLS  
Idaho State Historical  
Society

*Green*  
W. J. Sheely 11/19/76  
M. J. Sheely 11/19/76



# United States Department of the Interior

OFFICE OF THE SECRETARY  
WASHINGTON, D.C. 20240

DEC 16 1976

The Secretary of the Interior

Thomas S. Kleppe

is pleased to inform you that the historic properties in your State described in the enclosed brief summaries have been found to possess national significance in commemorating the history of the United States. On the recommendation of the Advisory Board on National Parks, Historic Sites, Buildings, and Monuments these properties have been designated national historic landmarks. We hope this action will be of interest to you and your constituents.

Also enclosed are leaflets explaining in detail the historic preservation programs of the National Park Service. National historic landmark status automatically enrolls the property on the National Register of Historic Places and extends to it the safeguards provided by the National Historic Preservation Act of 1966.

Recognition of the property's significance as a landmark is accorded by certificates and bronze plaques which are provided free of charge to the owners or administrators of these properties upon their agreement to adhere to simple preservation practices. The Director of the National Park Service will shortly notify the owners about these benefits and provide them with the appropriate agreement forms.

The owners of these properties are to be commended for preserving these significant examples of our Nation's cultural heritage for the education and enjoyment of all our citizens.

Enclosures



*Green*

FNP:HJ Sheely:kr 10/8/76  
bcc: Regional Director, Southwest Region  
772-Sheely

BASIC FILE RETAINED IN 772



# United States Department of the Interior

NATIONAL PARK SERVICE  
WASHINGTON, D.C. 20240

DEC 28 1976

IN REPLY REFER TO:

The Director of the National Park Service

Gary Everhardt

is pleased to inform you that the historic property described briefly in the enclosure has been found to possess national significance in commemorating the history of the United States and has, therefore, been designated a national historic landmark.

The purpose of landmark designation is to recognize nationally significant sites and to encourage their owners to preserve them. Landmarks are chosen through studies prepared by the National Survey of Historic Sites and Buildings; evaluated by the Advisory Board on National Parks, Historic Sites, Buildings, and Monuments; and approved by the Secretary of the Interior in accordance with the Historic Sites Act of 1935.

Recognition of the property's significance as a landmark is accorded by certificates and bronze plaques which are provided free of charge to the owners or administrators of these properties upon their agreement to adhere to simple preservation practices which would satisfy the criteria for continuing eligibility. These are set forth in the enclosed leaflet. We will be pleased to provide a certificate and bronze plaque. Enclosed are copies of the agreement. The form should be completed in triplicate and two copies returned to the National Park Service. The third copy may be retained for your records.

National historic landmark status automatically enrolls the property on the National Register of Historic Places. Under the provisions of the National Historic Preservation Act of 1966, entry on the National Register provides each property with safeguards against damage by Federal undertakings and fulfills one qualification for participation in a grant-in-aid program to assist in its preservation. Further information is contained in the enclosed leaflet describing the National Register.

We are pleased to include this property among the sites already designated national historic landmarks.

Honorable Dolph Briscoe  
Governor of Texas  
Austin, Texas 78701

cc: Mr. Ralph Block  
Chairman  
Battleship Texas Commission  
3461 West Alabama  
Suite C  
Houston, Texas 77027



700  
772

1/14/77  
(Date)

Mr. Gary Everhardt  
Director  
National Park Service  
Department of the Interior  
Washington, D.C. 20240

Dear Mr. Everhardt:

As the (owner, owners) of U.S.S. Texas  
(Name of site)

vicinity of  
located in Houston Harris Texas  
(City) (County) (State)

(I,we) hereby accept your offer of a certificate ( ) and a bronze plaque, 17" x 18" ( ), formally marking this historic property a national historic landmark. (Check one or both as desired.)

1. Fully conscious of the high responsibility to the Nation that goes with the ownership and care of a property classified as having national significance and worthy of national historic landmark status, (I,we) agree to preserve, so far as practicable and to the best of (my,our) ability, the historical values that will satisfy the criteria for continuing significance.
2. Toward this end, (I,we) agree to continue to use the property only for purposes consistent with its historical character.
3. (I,we) agree to permit an annual visit to the property by a representative of the National Park Service, as a basis for continuing landmark status.
4. If, for any reason, the three conditions mentioned above cannot continue to be met, it is agreed that the national historic landmark status shall cease and that until such status is restored by the Secretary of the Interior, neither the national historic landmark certificate nor the plaque will be displayed.

Sincerely yours,

N. J. Sheely 1/19/77

H3417-772

JAN 19 1977

Mr. Ralph F. Block  
Chairman  
The Battleship *Texas* Commission  
3461 W. Alabama, Suite C  
Houston, Texas 77027

Dear Mr. Block:

Thank you for your letter requesting that the agreement forms for the Battleship *Texas*, Houston, Texas, be sent to The Battleship *Texas* Commission for completion.

We are happy to enclose the forms for your action since the commission is the responsible agency, and the agreement does not require the action of the Governor as is often the case. We are pleased to know that you plan to accept the certificate and plaque identifying the Battleship *Texas* as a national historic landmark.

Sincerely yours,

(Signed)

George F. Emery  
Acting Chief, Historic Sites  
Survey Division

Enclosure

FNP:HJ Sheely:kr 1/19/77  
bcc: Regional Director, Southwest Region w/c inc.  
001-Reading File  
040  
190 w/c inc.  
772-Reading File  
✓772-Sheely w/c inc.

HP - Battleship *Texas*

BASIC FILE RETAINED IN 772

500  
772

JANUARY 24, 1977  
(Date)

Mr. Gary Everhardt  
Director  
National Park Service  
Department of the Interior  
Washington, D.C. 20240

Dear Mr. Everhardt:

As the (owner, owners) of Battleship TEXAS  
(Name of site)

located in Houston Harris Texas  
(City) (County) (State)

(I,we) hereby accept your offer of a certificate (X) and a bronze plaque, 17" x 18" (X), formally marking this historic property a national historic landmark. (Check one or both as desired.)

1. Fully conscious of the high responsibility to the Nation that goes with the ownership and care of a property classified as having national significance and worthy of national historic landmark status, (I,we) agree to preserve, so far as practicable and to the best of (my,our) ability, the historical values that will satisfy the criteria for continuing significance.
2. Toward this end, (I,we) agree to continue to use the property only for purposes consistent with its historical character.
3. (I,we) agree to permit an annual visit to the property by a representative of the National Park Service, as a basis for continuing landmark status.
4. If, for any reason, the three conditions mentioned above cannot continue to be met, it is agreed that the national historic landmark status shall cease and that until such status is restored by the Secretary of the Interior, neither the national historic landmark certificate nor the plaque will be displayed.

Sincerely yours,  
BATTLESHIP TEXAS COMMISSION  
*Ralph F. Block*  
RALPH F. BLOCK, CHAIRMAN

KP Ross 1/27/77  
J. J. Sheely 1/27/77  
47 Kennedy 1/27/77

H3417-772

JAN 28 1977

Honorable Dolph Briscoe  
Governor of Texas  
Austin, Texas 78711

Dear Governor Briscoe:

Thank you for the agreement form sent on January 14, 1977, accepting the certificate and plaque identifying the Battleship Texas, Harris County, Texas, as a national historic landmark. We are proceeding with the preparation of the certificate and plaque. A copy of the agreement form is being returned for your files.

Our Southwest Regional Office coordinates planning for presentation ceremonies in Texas. The Regional Director will inform you when the certificate and plaque for the Battleship Texas have been completed. Should you wish the help of the Service in arranging ceremonies for the presentation, he will be glad to assist you. His name and address is: Mr. John Cook, Regional Director, Southwest Regional Office, National Park Service, P.O. Box 728, Santa Fe, New Mexico 87501.

We are pleased to know that you plan active participation in the National Historic Landmarks Program.

Sincerely yours,

/Sgd/ Jerry L. Rogers

Acting Associate Director, Preservation  
of Historic Properties

Enclosures

FNP:KP Ross:kr 1/27/77  
bcc: Regional Director, Southwest Region w/c application form  
001-Reading File  
040  
772-Reading File  
✓772-Sheely w/c application form  
160-Curry

HP - Texas - Battleship Texas

BASIC FILE RETAINED IN 772

KP Ross 2/1/77  
W. J. Sheely 2/1/77

H3417-772

FEB 2 1977

Mr. Ralph F. Block  
Chairman  
Battleship *Texas* Commission  
3461 W. Alabama, Suite C  
Houston, Texas 77027

Dear Mr. Block:

Thank you for the agreement form sent on January 24, 1977, accepting the certificate and plaque identifying the Battleship *Texas*, Houston, Texas, as a national historic landmark. We are proceeding with the preparation of the certificate and plaque.

Our Southwest Regional Office coordinates planning for presentation ceremonies in Texas. The Regional Director will inform you when the certificate and plaque for the Battleship *Texas* have been completed. Should you wish the help of the Service in arranging ceremonies for the presentation, he will be glad to assist you. His name and address is: Mr. John Cook, Regional Director, Southwest Regional Office, National Park Service, P.O. Box 728, Santa Fe, New Mexico 87501.

We are pleased to know that you plan active participation in the National Historic Landmarks Program.

Sincerely yours,

Signed

George F. Emery  
Acting Chief, Historic Sites  
Survey Division

Enclosure

FNP:KP Ross:kr 2/1/77  
bcc: Regional Director, Southwest Region w/c application form  
001-Reading File  
040  
772-Reading File  
772-Sheely w/c application form

BASIC FILE RETAINED IN 772

HP - Texas - Battleship *Texas*



United States Department of the Interior  
NATIONAL PARK SERVICE  
SOUTHWEST REGION  
P.O. Box 728  
Santa Fe, New Mexico 87501

*Karen*

IN REPLY REFER TO:

H34-(SWR)CR

MAR 21 9 47 AM '77

MAR 17 1977

Memorandum

To: Associate Director, Preservation of Historic Properties, WASO  
Attention: Horace Sheely and Karen Ross

From: Acting Regional Historian

Subject: Two Ceremonies of Dedication

While I do not have all of the details at this point I thought you should know that two dedication ceremonies are scheduled as follows:

1. Battleship TEXAS, Houston  
April 23  
Certificate presentation to be made by Ted Thompson, Deputy Regional Director, Southwest Region
2. Hangar 9, Brooks AFB, San Antonio  
May 14  
Certificate presentation to be made by Wayne Cone, Associate Regional Director, Professional Services, Southwest Region

Please rush along the Certificates for these two, won't you. I have checked with Mr. King at the Foundry, and he promises to get the plaques to me for forwarding in plenty of time. Hope he does! I have requested the details of their plans and will forward as soon as I receive them here.

'twas SO nice to see you both when I was in Washington!

*W. J. King*



UNITED STATES GOVERNMENT

# Memorandum

TO : Horace Sheely, WASO

DATE: March 29, 1977

FROM : Margaret Twyman, SWRO

SUBJECT: Dedication of Battleship TEXAS

Here are the plans for the dedication of the Battleship TEXAS, just received:

DATE: April 23

TIME: Approximately 10:30 AM (motor ship SAM HOUSTON will leave city docks at approximately 9 AM to take guests to San Jacinto Battleground where the Battleship TEXAS is berthed)

PLACE: Aboard Battleship TEXAS, near Houston, Texas

Featured Speaker will be the Honorable Mark White, Secretary of State, State of Texas. Guests will include many state dignitaries and prominent Houstonians. Certificate will be presented on behalf of the National Park Service by Ted Thompson, Deputy Regional Director, Southwest Region. It will be accepted by Mr. Ralph F. Block, Chairman, Battleship TEXAS Commission.

\* \* \* \* \*

I have mailed the plaque to Mr. Block. Please be sure to RUSH the Certificate to me. I will give it to Ted Thompson to take with him.

Many thanks.





*Green*  
United States Department of the Interior

NATIONAL PARK SERVICE  
WASHINGTON, D.C. 20240

*KP Ross* 4/11/77  
*B Levy* 4/11/77

IN REPLY REFER TO:

H3417-772

April 11, 1977

The Director of the National Park

Gary Everhardt

is pleased to inform you of a ceremony formally marking the national historic landmark listed below. A National Park Service representative will present the landmark certificate and bronze plaque recognizing this as a nationally significant property in our Nation's heritage. Plans and arrangements for the landmark presentation program are the prerogative of the owner of the property. The National Park Service is glad to cooperate in such activities when requested to do so. Pertinent facts about the ceremony follow. Please let us know if we may supply further information.

Name of property:	Battleship TEXAS
Location:	Harris County, Texas
Date of ceremony:	April 23, 1977
Time and place:	10:30 a.m., at the site
Presenter:	Mr. Theodore R. Thompson, Deputy Regional Director, Southwest Regional Office
Recipient:	Mr. Ralph F. Block, Chairman, Battleship TEXAS Commission
Remarks:	The motor ship SAM HOUSTON will leave city docks at approximately 9 a.m. to take guests to the San Jacinto Battleground where the Battleship TEXAS is berthed.

BASIC FILE RETAINED IN. 772

040

SHPO-Texas  
772-Reading File  
772-Sheely

FNP:KP Ross:kr 4/11/77  
bcc: Regional Director, Southwest Region  
FW-Mr. Richard Rodgers, Room 3144  
190  
001-Reading File

HP - Texas - Battleship TEXAS

Also notified: Senator John G. Tower and Representative Bob Eckhardt

SIMILAR LETTER BEING SENT TO:

Hon. John G. Tower	Hon. Bob Eckhardt
Hon. Lloyd M. Bentsen	House of Representatives
United States Senate	Washington, D.C.
Washington, D.C.	

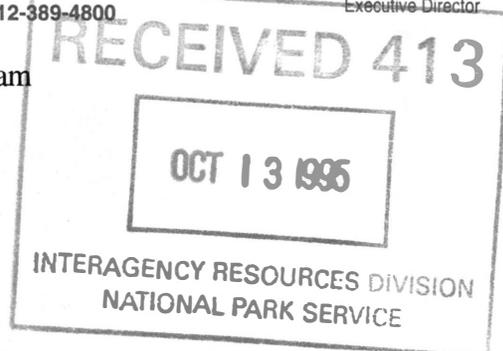


*Green*



**TEXAS  
PARKS AND WILDLIFE DEPARTMENT**  
4200 Smith School Road • Austin, Texas 78744 • 512-389-4800

ANDREW SANSON  
Executive Director



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PERRY R. BASS  
Chairman-Emeritus  
Ft. Worth

Interpretation and Exhibits Program  
512/389-4675  
512/389-4436 (fax)  
5 October 1995

National Historic Landmark Program  
P.O. Box 37127  
Washington, D.C. 20013-7127

Dear Sirs,

By a 1983 act of the State legislature, responsibility for the U.S.S. TEXAS, a National Historic Landmark, was turned over to this Department. Since that time much effort has been expended in her restoration.

As part of our restoration effort I recently studied an area of the ship on 3rd deck that includes the brig and carpenters' shop compartments. That effort revealed for the first time the presence of significant archaeological deposits aboard the ship. Further study suggested that such material permeates the ship. Please see the enclosed Furnishings Documentation for details of these findings.

So far as I am aware this is the first occasion that archaeological resources have been associated with an extant (as opposed to sunken or buried) historic ship. Although this is not a suggestion that the nomination forms be amended to recognize this new and important addition to the historic fabric of the Battleship, it is appropriate that your files reflect this new understanding. Accordingly, enclosed is material to be added to your records concerning this property.

Among the enclosures is the recently completed Archeological Site Data Form recording the Battleship with the Texas Archeological Research Laboratory at the University of Texas (Austin) as an archaeological site. It has accordingly been issued the trinomial designation 41HR744. Note also that the U.S.S. TEXAS is recognized as a State [of Texas] Archeological Landmark (SAL).

If I can be of any further assistance, please let me know.

Sincerely,

Daniel J. Crouch

enclosures: Archeological Site Data Form (partial)  
Park brochure  
"Furnishings Documentation for the Brig - Carpenters' Shop Area"  
"Historic Structures Report, Battleship TEXAS"



**STATE OF TEXAS  
Archeological Site Data Form**

Trinomial # 41 HR744

**Instructions:** Fill in all categories unless directed otherwise. Be specific in distinguishing between "none" and "none observed" or "unknown"; use "N/A" to indicate when a section of the form is not applicable. Where categories are followed by a "□", simply "√" a "yes" response; if "no," "none," "unknown," etc., enter a written response where applicable. Enter measurements in metric unless directed otherwise. Use common abbreviations to shorten responses. If you are filing updated or revised information, at a minimum complete all asterisked (\*) items; respond to other categories as necessary. Try to clarify possibly ambiguous responses. Attachments may be used to complete any category; at entry, write "See Attachment\*" and number attachments consecutively. List all attachments at end of form. Send completed form to Texas Archeological Research Laboratory, The University of Texas at Austin, Balcones Research Center, Austin, Texas, 78712-1100. Site Data Form version: May 1991

Initial Form  Update/Revision\*  Recorder Visited\*  Other Source\*   
 Type of Site\* (e.g., prehistoric open campsite, lithic quarry, fort) HISTORIC SHIP  
 Registration\* (e.g., Nat'l Register of Hist Places, State Arch Landmark) NAT'L HISTORIC LANDMARK

**GENERAL INFORMATION\***

Site Name(s) and #'s (include field # if assigned)  
U.S.S. TEXAS ; BATTLESHIP TEXAS ;  
BB35

Recorder(s) (who prepared form; do not use initials)  
DAN CROUCH - INTERPRETATION  
PROGRAM, TX PARKS &  
WILDLIFE DEPT., AUSTIN

Affiliation (institution/agency/society) TEXAS  
PARKS & WILDLIFE DEPT, 4200  
SMITH SCHOOL RD., AUSTIN 78744

Date of Form 2 OCTOBER 1995

Project Name & # \_\_\_\_\_

Project Funding Source \_\_\_\_\_

Permitting Sources & #'s \_\_\_\_\_

<sup>(i)</sup> Owner/Address/Phone # (also note if State, Federal,...)  
STATE OF TEXAS  
TEXAS PARKS & WILDLIFE DEPT.

Informants/Addresses/Phone #s \_\_\_\_\_

Additional Sources of Information [other site investigators/observers (who, what, when, why; begin with first

known); references & current project report, if prepared; add attachment pages as needed]

SEE ACCOMPANYING MATERIAL:  
PARK BROCHURE  
FURNISHING DOCUMENTATION  
NHL NOMINATION FORM (PART)

**WORK PERFORMED\***

Observe/Record  Date(s) \_\_\_\_\_

Surface Inspect/Collect  Date(s) AUG '94 - NOV '94  
 Techniques (e.g., controlled, non-controlled, select, random; describe) CONTROLLED <sup>(2)</sup>

Mapping  Date(s) \_\_\_\_\_

Method \_\_\_\_\_

Testing  Date(s) <sup>(3)</sup> \_\_\_\_\_

Method (e.g., hand: shovel tests; machine: test trench) and Amount \_\_\_\_\_

Excavation  Date(s) \_\_\_\_\_

Method & Extent \_\_\_\_\_

Records: Daily Journal  Testing/Unit/Square Records   
 Artifact Sketches  Maps/Drawings  Archival Records   
 Field Catalog/Lab Inventory  Analysis Notes   
 Photos: Slides/Log  Prints/Log  Aerials   
 Other  \_\_\_\_\_

\* CIRCLED NUMBERS REFER TO POINTS ON SUPPLEMENTAL COMMENTS ATTACHMENT<sub>1</sub>

WORK PERFORMED (continued)

Kinds of Materials Collected

(4)

FROM INTERSECTION WITH TX HWY 225  
PROCEED NORTH ON HWY 134 ABOUT  
5 1/2 MI. SHIP'S BERTH IS APPROX.  
275 YDS. WEST OF THE HIGHWAY  
IN SAN JACINTO STATE HISTORICAL  
PARK.

Special Samples, Collection Strategy, & Technique  
(e.g., carbon, archeomagnetic; list & describe)

SAMPLES TAKEN OF FELT-LIKE LAYER  
DEPOSITED AT BOTTOM LEVELS IN  
AIR VENTILATION LINES

Elevation (in Ft at Marked Site Center/Nucleus) SEA LEVEL

Elevation Range \_\_\_\_\_

UTM (at Marked Site Center/Nucleus)\*: Zone 15;

Easting 2 97 940; Northing 32 93 360

UTM Range \_\_\_\_\_

Temporary Housing (location of materials during field work  
&/or analysis) \_\_\_\_\_

Latitude/Longitude (if UTM indeterminable)

Lat \_\_\_\_\_ ° \_\_\_\_\_ ' \_\_\_\_\_ " Long \_\_\_\_\_ ° \_\_\_\_\_ ' \_\_\_\_\_ "

Permanent Housing (selected repository where materials are  
to be permanently curated) \_\_\_\_\_

Nearest Natural Extant Water, Type, Distance &

Direction (note name, if named) ON BUFFALO BAYOU

OPPOSITE ITS JUNCTURE W/ SAN JACINTO R.

Major Creek Drainage \_\_\_\_\_

**LOCATIONAL/ENVIRONMENTAL INFORMATION**

(5)

County(ies)\* HARRIS

Site Location in County (e.g., SW, NE) E

USGS Map Series, Name, & Quad # \* (e.g., 7.5' Austin  
West, 3097-231) 7.5' HIGHLANDS, TEX.;

2995-441

Name of Drainage Basin & Type (River/Coastal/Playa)

BUFFALO BAYOU RIVER

Soil Description & Reference

SCS Soil Series Name, Mapping Unit N/A

Description of Location\* (use either or both):

a. Triangulations from USGS Map Points to Marked Site  
Center/Nucleus (use numbered boundary markers, benchmarks,  
spillways, etc., as landmarks and note their direction to site-  
NNW, ESE...); or

b. On-the-Ground Distances & Directions to Site (begin at  
major intersection or unambiguous point & choose relatively  
permanent map &/or field landmarks)

APPROX 1 1/2 MI. EAST OF DOWN-  
TOWN HOUSTON

Genetic Type (e.g., lithosol, vertisol) \_\_\_\_\_

Surface Texture (e.g., sand/silt, clay loam, etc.) \_\_\_\_\_

Source/Derivation: In Situ  Marine  Eolian

Colluvial  Alluvial  Other

Percentage of Ground Surface Visible\* (6)

LOCATIONAL/ENVIRONMENTAL INFO (continued)

Environmental/Topographic Setting of Site (vegetation, pertinent landforms, slope, visible landmarks, etc.)

N/A

Approximate Site Size (length x width, with orientation; diameter or area; systems other than metric may be used where appropriate for historic sites)

SHIP MEASURES 573 FT. X 106 FT.

Basis for Determination \_\_\_\_\_

Top of Cultural Deposit below Ground Surface

(Minimum Depth) N/A

Basis for Determination \_\_\_\_\_

**CULTURAL MANIFESTATIONS\***

Time Periods of Occupation (e.g., Early Archaic, Late Prehistoric, Republic of Texas; may be multiple)

20TH CENTURY WITH NAVY,  
BATTLESHIP COMMISSION  
AND TPWD COMPONENTS

Thickness Range of Cultural Deposit (7)

Basis for Determination \_\_\_\_\_

Component (discrete occupations):

Single  Multiple  Unknown

Basis for Determination NATURE OF THE  
ASSEMBLAGE COMBINED WITH  
TEMPORAL DIAGNOSTICS

Artifactual Materials Present (both reported and observed as well as collected; kinds of materials, distribution across site, relationship to features, etc.)

MATCHSTICKS & PACKS, CIGARETTE  
BUTTS & PACKS, STICKS & WRAPPERS  
OF CHEWING GUM, ORANGES, ORANGE  
WRAPPERS, WATCH CAP, TROUSER LEG  
RAG, PAPER CUPS, TOOTH BRUSH,  
STENCILS, A SOCK, SHIP'S FORMS,  
NEWSPAPER, MAGAZINES, A BOOK,  
STRING, PAPER TAGS, UNID. METAL  
RODS, BOLT HEADS, SCREWS, CANDY  
& SNACK WRAPPERS [SEE BRIG-  
C. SHOP FURNISHING DOCUMENTATION]

Cultural Features (if present, do not merely list, describe; e.g., burned rock midden, hearth, pictographs, mounds, structural remains; how many are there, what is their spatial distribution, size, contents; how do they relate to components, time periods, physiography, etc.; identify intrusive features, e.g., fence)

EXTANT ARCHITECTURE WITH  
ASSOCIATED DEPOSITS, LARGELY  
MIDDEN

Additional comments on cultural manifestations \_\_\_\_\_

**SITE CONDITIONS, RECOMMENDATIONS,  
REGISTRATION STATUS\***

Circumstances Affecting Observations (e.g., time of day, weather conditions, could not walk over entire site, etc.; conditions affecting observation, including ground cover)

ONLY A SMALL PORTION OF THE SHIP WAS INVESTIGATED

Approximate Percentage of Site Remaining Intact  
UNKNOWN

Current Land Use STATE PARK

Natural Impacts (include erosion, spalling, bioturbation, etc.) ARCHITECTURAL DETERIORATION

Artificial Impacts (include construction, plowing, vandalism, etc.) VANDALISM/PILFERAGE, RESTORATION

Known or Perceived Future Impacts  
SAME

Recommended Actions (regional and project-specific research, management, preservation):

Research Value of Site IT WOULD BE HARD TO OVERSTATE THE IMPORTANCE OF THIS SITE TO UNDERSTANDING THE EVOLUTION OF NAVAL ARCHITECTURE AND THE CREW'S EXPERIENCE OF A SHIP OF THIS TYPE. (8)

What Further Investigations and Why  
(9)

If No Further Investigations, Why Not

~~\_\_\_\_\_~~  
~~\_\_\_\_\_~~  
~~\_\_\_\_\_~~

**Registration Details:**

SAL = State Archeological Landmark  
NRHP = National Register of Historic Places  
CE = Conservation Easement

	SAL	NRHP	CE	Other <u>NHL</u>
Has Potential	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Submitted (to THC)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Nominated	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Determined Eligible	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Listed	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**DISCUSSION OF SITE**

Additional comments, observations, impressions: (10)

**Number & List Attachments**

1. SUPPLEMENTAL COMMENTS
2. BROCHURE
3. FURNISHING REPORT
4. NHL NOMINATION FORM (PART)
5. HISTORIC STRUCTURE REPORT
6. COPY OF HIGHLANDS, TEX. 7.5' QUAD (PARTIAL)

①

Supplemental Comments to Archeological Site Data Form  
U.S.S. TEXAS

41 HR 744

1. Local responsibility for the site is vested in:  
Manager, San Jacinto State Historical Park  
3527 Battleground Rd.  
LaPorte, TX 77571  
  
Overall responsibility is at the Departmental headquarters:  
Texas Parks & Wildlife Dept.  
4200 Smith School Rd.  
Austin, TX 78744
  
2. Surface collection in this context includes picking up items which for the most part lay exposed within the compartments. Artifacts are exposed on decks, frames, blower housings, pipes, electrical wires, and ventilation lines. A final collection category is objects recovered from backdirt piles and discard boxes, where they had been placed by workers involved in restoration of the compartments. The collection technique changed to fit the situation. Where large numbers of items covered the deck such as in the previously locked cells, the deck was gridded and the artifacts collected with grid provenience. Where isolated finds were found on frames, artifacts were collected individually with a verbal description of location, perhaps supplemented with a sketch map.
  
3. Testing was done in August and between October and December of 1994. The first testing did not include recovery but confirmed *in situ* cultural material and stratigraphy. Later testing was more extensive and concentrated in areas to be affected by restoration. The furnishings documentation project confirmed the existence of intact and undamaged Navy (i.e. pre-1948) deposits dating at least as early as 1933.
  
4. The recovered materials are historic and date to the 20th century. Temporal diagnostics range from the 1930s to the 1980s. Artifacts include "dust, hair, lint, rust scale, dropped and lost items, deliberately place items, paper items, wood and iron, cloth, leather, and rubber." ["Conclusions" chapter in

Supplemental Comments to Archeological Site Data Form  
U.S.S. TEXAS

41 HR 744

brig-carpenters' shop furnishings documentation, Attachment 3.] Some items are trash deposited by park visitors and date back to the 1940s. Many were discarded or lost by the sailors who crewed the ship when she was still in Navy service.

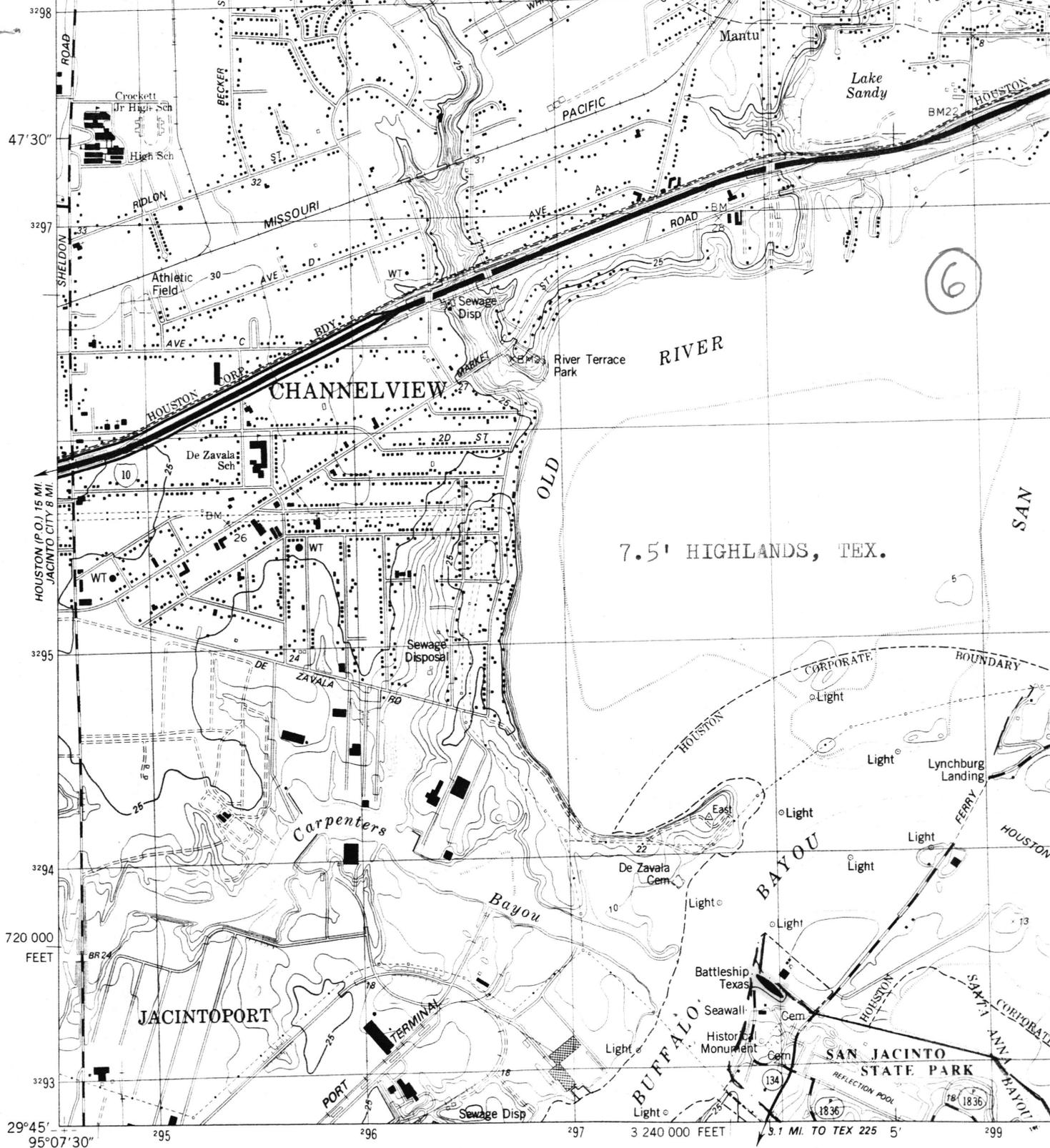
5. This site is associated with moveable architecture, an historic ship. At present, the ship is in an artificial berth on Buffalo Bayou opposite the mouth of the San Jacinto River, and west of State Highway 134 (Battleground Road) in the San Jacinto State Historical Park. (See Attachment 6.) This location can be changed.
6. This measure has no meaning in this context. The site is a piece of historic naval architecture which encloses its cultural deposits. Some deposits are apparent to a correctly positioned observer. However, most is not visible under normal circumstances. The ship is large and no limits have been found to the extent of deposits.
7. This question has limited applicability because so much of the deposit is without matrix. However, the thickness of those more traditional "deposits" is extremely variable. Based on the brig and carpenters' shop documentation (Attachment 3), it is up to several inches thick, excluding overburden.
8. The importance of deposits on the TEXAS cannot be overstated. If such deposits are present here, they may also exist on other historic ships. These also should be examined, following on the TEXAS example.
9. Cultural resource study has been either ignored or inadequately done in the past. At present, only the brig and carpenters' shop area of 3rd deck has been closely investigated, and only a small percentage of the deposits discovered here have been recovered. Investigation for and recovery of deposits should

Supplemental Comments to Archeological Site Data Form  
U.S.S. TEXAS

41 HR 744

become a standard, programmatic feature where plans are made for any degree of restoration or change in the amount of visitation to an area. Areas of the ship already open to the public should also be studied as recovery here has in the past not be total. Sampling and partial mitigations are not adequate. The structure of the ship both in its architecture and in the history of its evolving compartment functions is too complex to allow for extrapolation from one area to another. In addition, too little of the resource has been preserved to allow any diminution of its quantity. Finally, some of the material will be very delicate, and relationships within and between strata will be such that recovery cannot be undertaken lightly and as simple removal. It will require professional excavation. This is particularly the case within the air vents.

10. The importance of this ship goes beyond that already recognized by its National Historic and Engineering Landmark status. The TEXAS is of international importance, being the last remaining survivor of the dreadnought phase of the naval arms race, participated in by the world's industrialized nations during the first decades of this century. Even within the small area documented in the brig-carpenters' shop furnishings documentation (Attachment 3) greatly changed previous conceptions of life aboard ship in general and of prisoners in the brig in particular. Overstating the importance of the deposits on the TEXAS would be difficult.



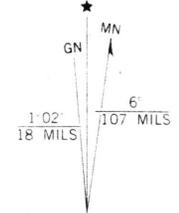
Mapped, edited, and published by the Geological Survey

Control by USGS and NOS/NOAA

Topography by photogrammetric methods from aerial photographs taken 1975. Field checked 1976. Map edited 1982  
 Selected hydrographic data compiled from NOS/NOAA chart 11329 (1980)  
 This information not intended for navigational purposes

Projection and 10,000-foot grid ticks: Texas coordinate system, south central zone (Lambert conformal conic)  
 1000-meter Universal Transverse Mercator grid, zone 15  
 1927 North American datum

To place on the predicted North American Datum 1983  
 move the projection lines 20 meters south and  
 21 meters east as shown by dashed corner ticks  
 A portion of this map lies within a subsidence area  
 Contouring based on 1973 adjustment of vertical control  
 Fine red dashed lines indicate selected fence lines



UTM GRID AND 1982 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

Red tint indicates areas in which only landmark buildings are shown  
 Water stages in this area vary with meteorological conditions  
 Approximate limits of occasional inundation shown by dashed blue lines  
 where mean high water is undetermined for lack of visual evidence  
 Dotted blue lines indicate the approximate limits of low water  
 There may be private inholdings within the boundaries of the National or State reservations shown on this map

FOR SALE BY  
 A F

(PASADENA)  
 6943 II NW

**From:** J DeVault [mailto:jdv3dge1@ix.netcom.com]  
**Sent:** Sunday, October 04, 2009 12:11 PM  
**To:** Nau, John  
**Subject:**

Dear Mr. Nau,

I thought you might be interested in seeing the attached letter which I obtained on Friday from Texas Parks and Wildlife through an Open Records Request.

During the 2009 session, I had an opportunity to sit down with Tom Craddick (I'm originally from Midland) and we talked about the saga of moving the Battleship TEXAS during the 2007 session. It is all very interesting and we now know that the ship is capable of a "brown water" tow with some remedial repairs.

Sincerely,

Jan DeVault

President

Friends of the San Jacinto Battleground

713-237-8997 (office)

281-793-9569 (cell)



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Silver Eagle 7777\_\* NAVSEA letter 090930.pdf



DEPARTMENT OF THE NAVY

NAVAL SEA SYSTEMS COMMAND  
1333 ISAAC HULL AVENUE  
WASHINGTON NAVY YARD DC 20376-2701

IN REPLY REFER TO

5090  
Ser 333/105  
30 Sept 2009

Texas Parks & Wildlife Department  
Rich McMonagle, Director, Infrastructure Division  
4200 Smith School Road  
Austin, Texas 78744-3291

MHL 1977  
DR

Dear Mr. McMonagle:

This letter serves to provide you with a comprehensive written explanation of the federal environmental laws that must be complied with before the Texas Parks & Wildlife Department (TPWD) can make any definite decisions regarding the proposed dry-berthing project for the Battleship Texas. The proposed dry-berthing project triggers two environmental laws: Section 106 of the National Historic Preservation Act (NHPA) and the National Environmental Policy Act (NEPA).

Section 106 of the NHPA, and its implementing regulations at 36 C.F.R. Part 800, requires federal agencies to take into account the effects of their undertakings on historic properties and afford the Council (referring to the Advisory Council on Historic Preservation) a reasonable opportunity to comment on the undertaking. The effects of the proposed dry-berthing are considered through a consultation process which should include all federal agencies with an interest in the Battleship Texas, the appropriate State Historic Preservation Officer (SHPO), and other consulting parties that have an interest in the vessel. This process should begin in the early planning stages of the proposed action and must be completed before any federal funds can be expended. The proposed dry-berthing project is a federal undertaking because; 1) P. L. 649 of the 79<sup>th</sup> Congress governs the transfer of this vessel to the State of Texas and stipulates that the State is required to maintain the vessel in a condition that is satisfactory to the Navy. This statement authorizes a federal agency (Navy) to approve any proposed modifications to the vessel; and 2) the Battleship Texas Foundation (BTF) received funding through a federal grant and has agreed to give TPWD the funding for use towards the proposed dry-berthing project.

Do this a  
Federal undertaking  
yes

Fed.  
grant?

The proposed dry-berthing project also triggers NEPA, 42 U.S.C. §4321 and its implementing regulations at 40 C.F.R. Parts 1500-1508. NEPA requires a detailed statement on the environmental impact of major federal actions that significantly affect the environment. The proposed dry-berthing project is a major federal action because it is partly financed by the federal government

and the project requires the approval of the Navy. The NEPA document must assess all reasonable alternatives to the proposed action to avoid or minimize any adverse environmental effects. While NEPA does not force the action proponent to choose a specific alternative, it does require that the action proponent make a decision after it has taken a "hard look" at all alternatives. With regard to the proposed dry-berthing project, this "hard look" includes assessing alternative dry-berthing designs in addition to assessing alternative locations for the vessel.

Should you need any further explanation about the aforementioned environmental laws or your role in complying with these laws, please contact Ms. Elizabeth Freese at (202) 781-4423 or Elizabeth.Freese@navy.mil.

Sincerely,



C.R. Pietras  
CAPT USN  
Program Manager  
Navy Inactive Ships Program (PMS 333)

amy  
11/2/09

Linda  
McClelland/WASO/NPS  
10/29/2009 05:56 PM

To Paul Loether/WASO/NPS, Alexandra Lord/WASO/NPS,  
cc  
bcc  
Subject Fw: Inquiry from John Fowler

Paul and Lexi--

This has been in the planning for several years, although I'd not learned of it until this memo came to our attention. Apparently the money is coming from a variety of sources, including a State bond measure for Texas Parks. ( I placed some results from my Internet search in Lexi's mailbox.)

Battleship Texas was designated an NHL in 1977, and this does appear to be a Section 106 issue, possibly involving a SAFE-TEA grant. Several years ago the State legislature authorized TXDOT to issue \$ 16.1 million in federal SAFE-TEA funds (if approved by FHWA and the TXDOT Commission) and this found its way into the Texas Parks Leg. Appropriation request for 2008-2009. I was unable to find out if this grant has actually been approved. My contacts at Texas Historical Commission appear to be at an out of town review board meeting. I'll try to learn more next week.

Linda McClelland

----- Forwarded by Linda McClelland/WASO/NPS on 10/29/2009 05:56 PM -----



Toni Lee/WASO/NPS  
10/28/2009 09:47 AM

To Paul Loether/WASO/NPS@NPS, Linda  
McClelland/WASO/NPS@NPS  
cc  
Subject Inquiry from John Fowler

Is this something that we should be involved with? Toni

----- Forwarded by Toni Lee/WASO/NPS on 10/28/2009 09:46 AM -----



"John Fowler"  
<jfowler@achp.gov>  
10/28/2009 09:45 AM

To <toni\_lee@nps.gov>, "Caroline D. Hall" <chall@achp.gov>  
cc  
Subject FW:

Any 106 issues here for us? John

**From:** Ciers, Jena [mailto:jciera@sedbud.com] **On Behalf Of** Nau, John  
**Sent:** Monday, October 05, 2009 11:13 AM  
**To:** John Fowler  
**Subject:** FW:

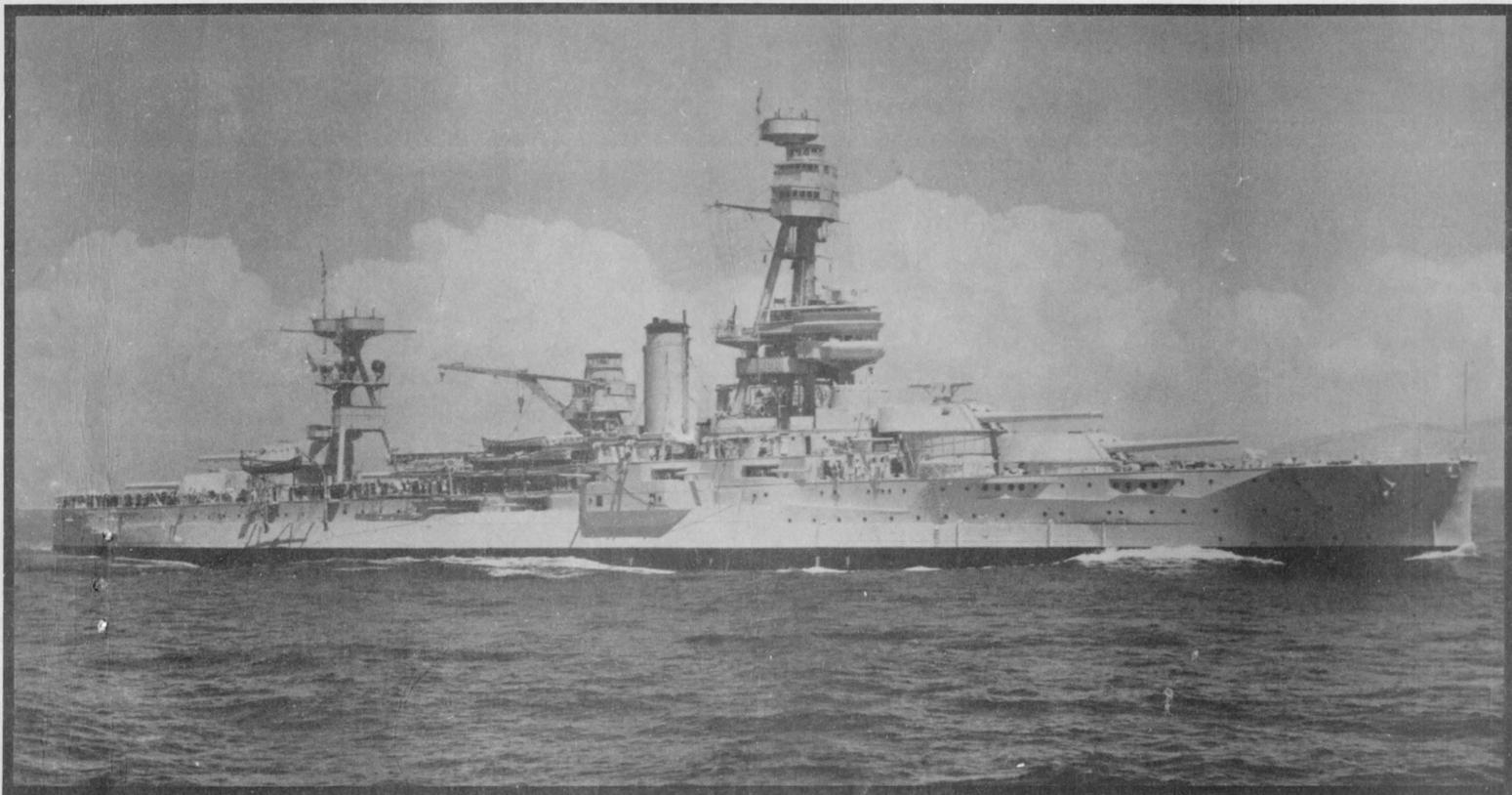
FYI – you might ask Texas SHPO.



ASME  
1975

**National Historic  
Mechanical Engineering  
Landmark**

**Reciprocating Steam Engines  
U.S.S. Texas**



Houston, Texas

December 1, 1975

The Battleship Texas Commission, State of Texas  
The American Society of Mechanical Engineers

Commissioned by  
The United States Navy

Built by  
The Newport News Shipbuilding  
and Dry Dock Company

## ACKNOWLEDGMENTS

Brochure co-authors: Dr. Carey Murphey, History and Heritage Chairman, 1974-75,  
ASME South Texas Section;  
Peter Serratore, ASME Public Relations Administrator

The Society would like to acknowledge the efforts of Colin Carmichael, Mr. & Mrs. Richard B. Robertson, Mr. & Mrs. Ivan G. Rice, Dr. William J. Graff, Reid P. McNally, Jr., Francis O'Keefe, Earl Madison, Maurice Jones, C. A. Besio, The Houston Convention and Visitors Bureau, The Battleship Texas Commission, Captain A. G. Taylor, Ralph Block, Allan Sherry, and R. S. Hartenberg.

### THE AMERICAN SOCIETY OF MECHANICAL ENGINEERS

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Dr. Rogers B. Finch	Executive Director and Secretary
Dr. J. George H. Thompson	Vice President, Region X

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Dean John G. Burke	Committee Member
Curator R. M. Vogel	Ex-Officio (Smithsonian Institution)
Clarence E. Davies	Consultant
Maurice Jones	ASME Staff Director of Operations

### ASME - SOUTH TEXAS SECTION

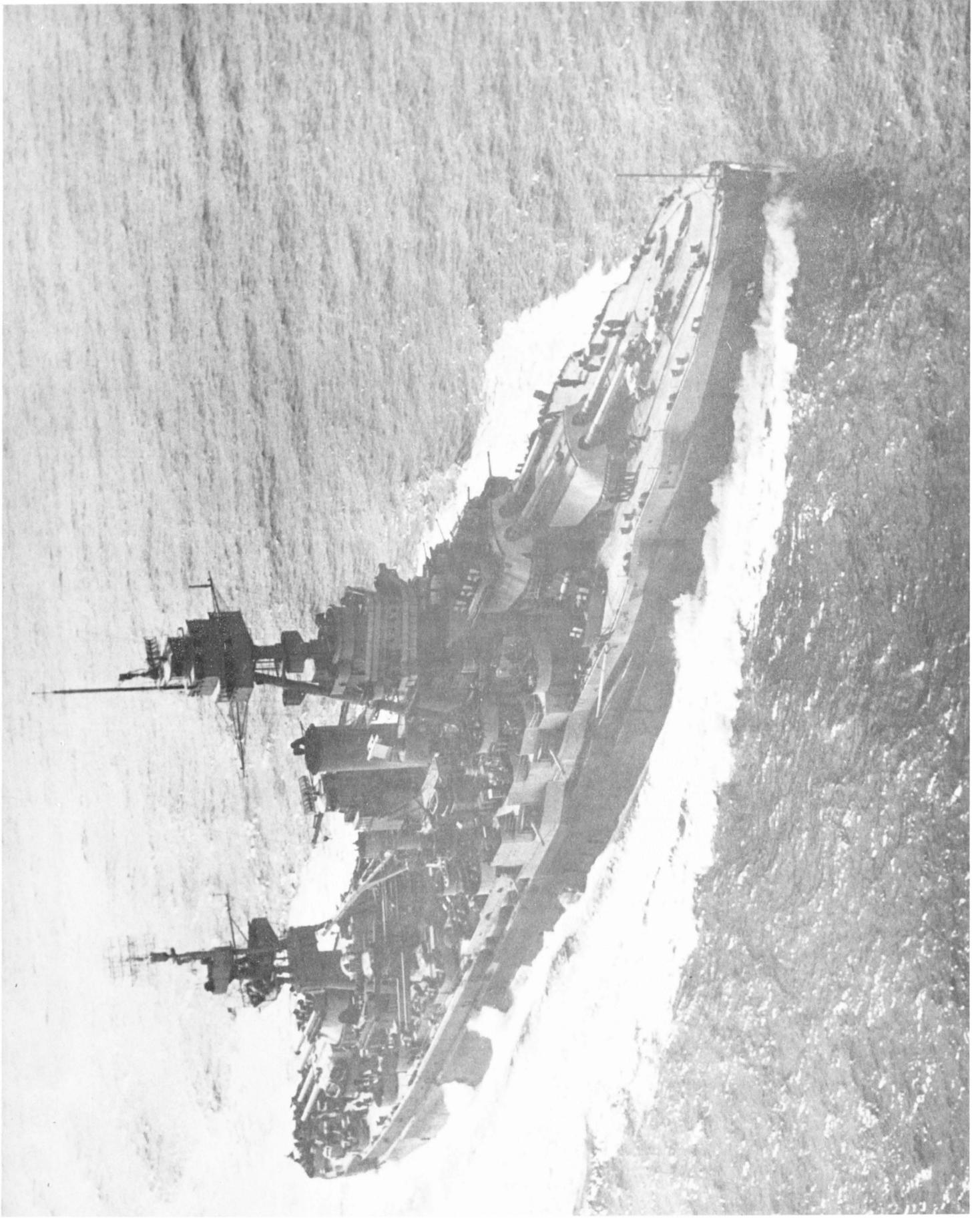
Ivan G. Rice	Chairman, 1975-76
Al Woelfel	Chairman, 1974-75
Reid P. McNally, Jr.	History and Heritage Chairman, 1975-76
Dr. Carey Murphey	History and Heritage Chairman, 1974-75

## INTRODUCTION

The U.S.S. Texas is the last surviving warship of its kind--powered by reciprocating steam engines. It was built during a period in which naval authorities were switching to the newly-developed steam turbine for propulsion, but were unsure of its suitability. Only one more warship, the New York, commissioned one month after the Texas, was to be powered by the reciprocating engines.

Such was the state of the art at the time that the Texas' engines were described as "the ultimate in naval reciprocating engine construction." They could be rightfully described in these glowing terms, as was shown by their dependable service from 1914 until after World War II, when the Texas was removed from the Navy's active roster.

For these reasons, the U.S.S. Texas, with its reciprocating steam engines, has been declared a National Historic Mechanical Engineering Landmark.



The Texas in 1944. Navy Dept. Photo

## STEAM POWER, WARSHIPS, AND THE U.S.S. TEXAS

In a world swept by the Industrial Age, it is surprising to note that the steam engine--perhaps the quintessence of those times--was not considered acceptable power for capitol ships by naval authorities until the late 1870's. Although by 1850, fully one quarter of all naval ships were steam powered, they were small ships and auxiliary craft; the man-o-war was still sail powered. Because of the maneuverability of steam-powered craft regardless of wind, however, they were regarded as highly valuable for positioning large warships during engagements. The British Navy operated in this manner during naval engagements of the Crimean War (1853-56).

Although steam's advantages in battle were recognized and exploited, the big warships were still sail powered. In as late as 1860, the English Seamanship Manual, official training textbook for British naval officers, carried the following passage: "Engines and machinery, liable to many accidents, may fail at any moment and there is no greater fallacy than to suppose that ships can be navigated on long voyages without masts and sails." This prevalent view held by the navies of the industrial world at that time was not groundless. Propelling machinery was still excessively heavy and bulky, and consumed enormous amounts of fuel. Coupled with these factors was a power-weight ratio of about one ton per horsepower (the propelling machinery of post-World War II battleships weighed less than 50 pounds per horsepower).

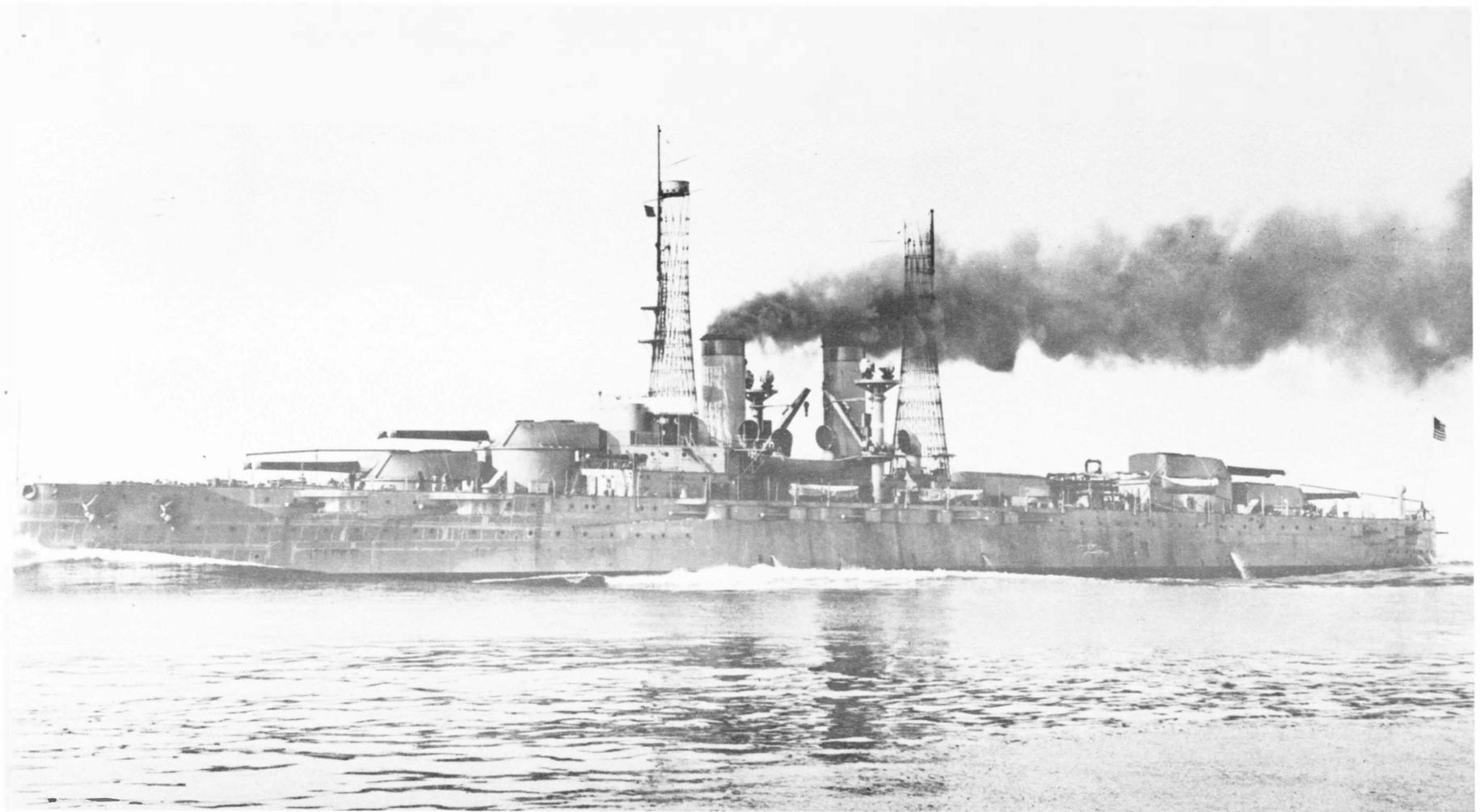
Technical improvements in the 1870's relieved steam of most of its deficiencies, however, and by the 1880's sail power had been relegated to an auxiliary role, or had been done away with, on warships then under construction.

Steam power in U.S. warships then underwent a rapid evolution. The Navy, slow to change to steam, adopted the steam turbine quickly. By the time the construction of the U.S.S. Texas was authorized in January 1910, the Navy already had three turbine-powered battleships.

Why, then, was the Texas built with reciprocating steam engines? According to Jane's Fighting Ships, 1943-44, "Builders of turbine engines in the U.S. refused to adopt standards laid down by the Navy Dept. Accordingly in these ships\* a reversion was made to reciprocating engines to show turbine builders that the Navy Dept. was determined to have turbines built to official specification, or else the older type of engines would be taken up again." At the time, too, the reciprocating engine had proven to be more fuel-efficient than the direct-drive turbine, especially at cruising speeds.

For these reasons the sister ships Texas and New York were built with the last, and most sophisticated, reciprocating steam engines. The Oklahoma, also designated to be built with these engines, ended up turbine-powered.

\*The Texas, the New York, and the Oklahoma.



The Texas on its trial runs in 1913. The radically different appearance of the ship on the cover is due to a major conversion in 1925. At that time, the Texas was converted to an oil-fired ship, "blisters" were added to the hull armor for torpedo protection (this increased the ship's beam by about 12 feet), and the higher, more modern superstructure was added.

-U.S. Bureau of Ships Photo

## THE TEXAS' RECIPROCATING STEAM ENGINES

The Texas was propelled by twin screws driven by 4-cylinder triple-expansion engines having a total designed horsepower of 28,100 at 125 revolutions per minute, with steam at 265 pounds per square inch. Cylinder bores were: High Pressure, 39 inches; Intermediate Pressure, 63 inches; and two low pressure 83 inch cylinders, all with a 48-inch stroke. Cylinder sequence was: Forward Low Pressure, High Pressure, Intermediate Pressure, Aft Low Pressure. The crank angles were 90 degrees, and the working sequence was: High, Intermediate, Forward Low, Aft Low. Piston valves were used on all cylinders, one for the high pressure cylinder, and two for each of the others, actuated by Stephenson's double-link valve gear.

The bedplates were cast steel and the framing Navy-type forged steel columns bolted to the bedplate and cylinders, braced by diagonal, cross, and longitudinal stays. The cylinders and valve chests were cast iron, the working liners being close-grained cast iron. All cylinders except the high pressure were steam-jacketed around the liners and at both ends. The conical pistons were cast steel, except the high pressure, which was cast iron.

All working and moving parts of the main engines, except the valve links and valve-stem guides, were force-lubricated under a pressure of about 50 pounds per square inch. The crank pits were totally enclosed by galvanized sheet-steel casings up to within 18 inches of the bottoms of the cylinders.

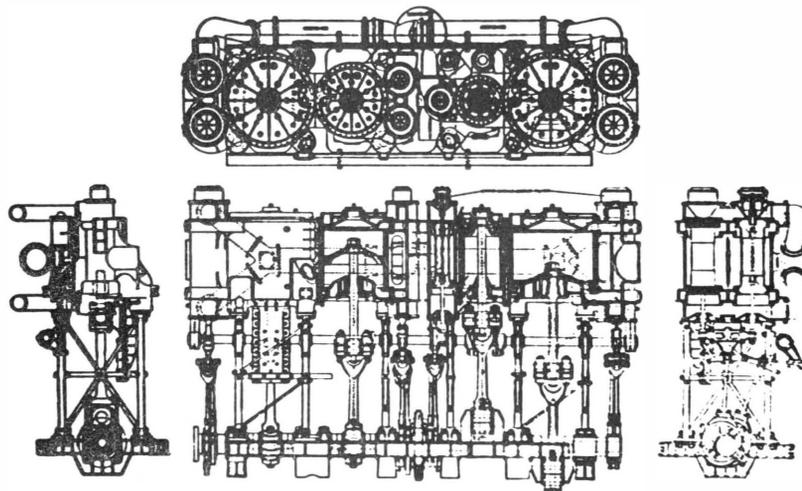


Diagram of a triple-expansion reciprocating steam engine comparable to those of the U.S.S. Texas

Steam for the Texas engines was supplied by 14 Babcock & Wilcox water-tube boilers working at 295 pounds per square inch, throttled down to 265 psi at the engines. The heating surface was 62,213 square feet and the grate area 1,554 square feet. The furnaces operated under closed fire-room forced draft, with an ashpit pressure of 2 inches of water.

Total machinery weight was 2,375 tons and the coal capacity was 2,850 tons. 124 tons of oil were carried as an auxiliary fuel supply.

The propellers were 3-bladed, built-up, with manganese bronze blades. Their diameter was 18 feet, 7 1/4 inches, and their pitch was 19 feet, 11 1/2 inches. When the ship was moving forward, the propeller shafts turned outward.

Having described the mammoth engines' specifications, a description of reciprocating engines in operation, drawn from The Man-of-War, would be appropriate: "The scene in the engine room of a pre-Dreadnought\* battleship at speed was like an inferno. As the great piston rods leapt wildly up and down and the connecting rods whirled the massive cranks round, hot oil and water spurted everywhere. Seawater from hoses playing on hot bearings sloshed in the bilges. In an atmosphere murky with steam from dozens of small leaks, the engine officers would stand on the greasy deck plates, oilskins buttoned to the neck, their faces black and their clothes soaked in oil and water. All over would be a noise so deafening that telephones could not be used. Breakdowns from overheated bearings or broken steam joints were common, and were always expected. After any prolonged period of high-speed running there would be work for the dockyard engineers."

Although this may be an exaggeration of what went on in the Texas, it is representative of the state of the art before the turbine came into use.

\*The H. M. S. Dreadnought was the first turbine-powered battleship, built in 1906.

## GENERAL SHIP INFORMATION

The U.S.S. Texas, one of the last U.S. Navy battleships powered by reciprocating steam engines, was built by the Newport News Shipbuilding and Dry Dock Company at a bid price of \$5,830,000. The keel was laid on April 17, 1911, and the ship was launched on May 12, 1912. The Texas left the Newport News yard and was commissioned on March 12, 1914.

The ship is 573 feet long, had a beam of 94 feet, 9 inches, and a displacement of 27,000 tons. Its 28,000 horsepower reciprocating engines could drive it at a speed of 21 knots. It carried 1,314 crew members.

The Texas mounted ten 14" guns, sixteen 5" guns, eight 3" guns, and 40mm anti-aircraft guns. It also carried 3 recoverable seaplanes which were launched by a steam catapult on the stern. The ship's hull had 12" belt armor, the gun turrets 14" armor plate, and the conning tower had 12" armor plate.

## THE TEXAS AND TWO WORLD WARS

Although the Texas was newer at the time, it saw more action in World War II than in World War I because of the vastly different characteristics of the two wars. During World War I, the Texas served in the Atlantic and was present at Scapa Flow for the surrender of the German Fleet.

From Pearl Harbor until October 1942, the Texas was on Atlantic duty. In October, it sailed for North Africa, taking part in pre-invasion bombardments. The ship returned to the U.S. in November, 1942, and served in the North Atlantic on convoy escort duty until February 1944, when it was fitted as the flagship of a group of warships under Rear Admiral C. F. Bryant, U.S.N.

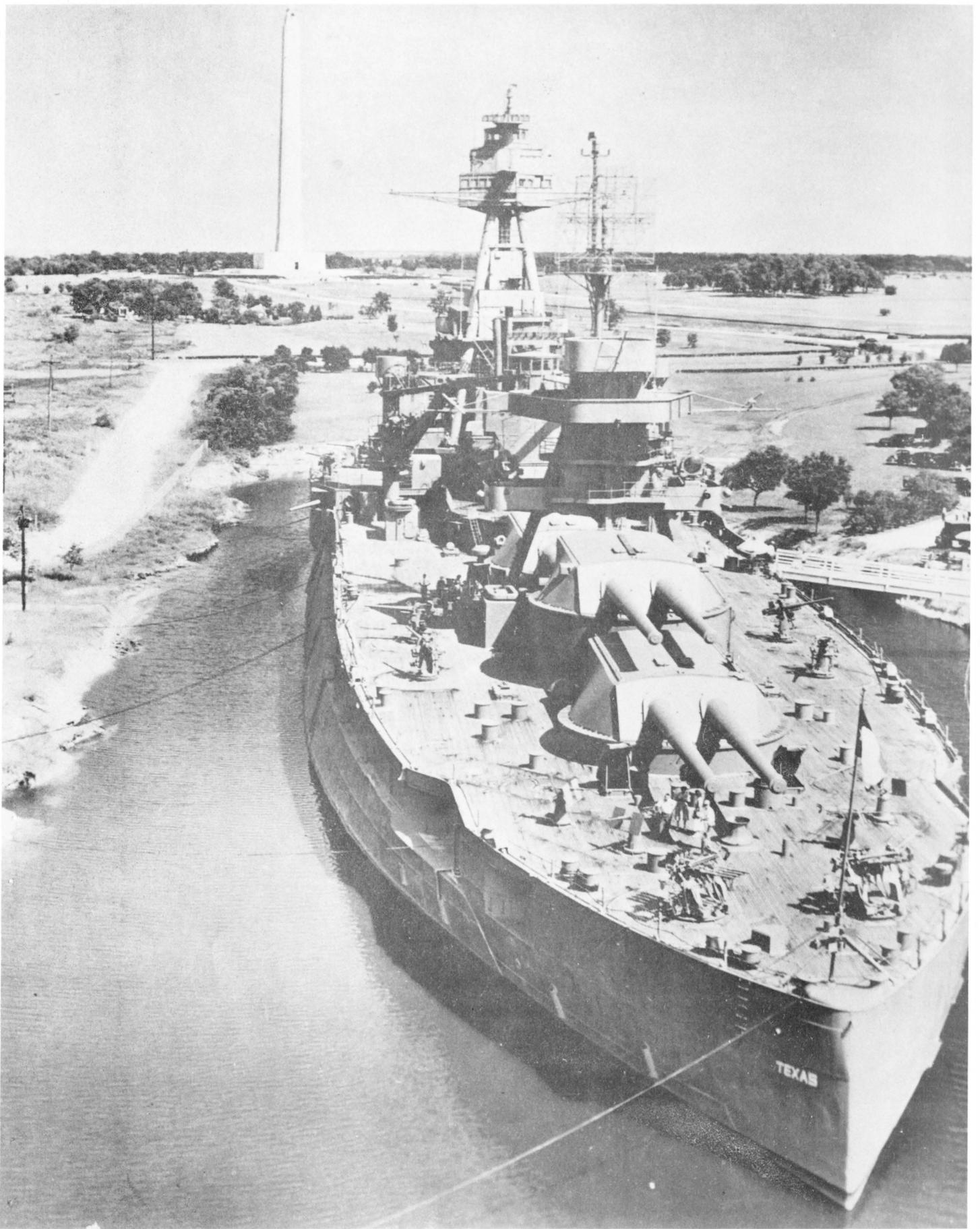
The Texas, under Bryant, fired the opening naval salvo of the D-Day invasion at Normandy. According to Warships of the World, the Texas took a position within 12,000 yards of the coast (the closest of any battleship), and, at 5:50 AM on June 6, 1944, commenced main and secondary battery bombardment of German coastal batteries. Throughout the invasion, the Texas provided support of Allied forces. On June 9, while bombarding the French coast, the Texas' guns demolished the railroad station at Isigny, several miles inland, and scattered a German convoy in the area. The Texas was also in the Mediterranean, taking part in the bombardment of St. Tropez on August 16, 1944.

With the Atlantic war wound down, the Texas moved to the Pacific, where it took part in the months-long naval bombardment of Iwo Jima prior to the famed invasion.

## THE TEXAS AS A MONUMENT

On San Jacinto Day, April 21, in 1948, the Texas was decommissioned, presented to the State of Texas, then recommissioned as the flagship of the Texas Navy. The ship was a gift, authorized by the U.S. Congress, to the state, and a special commission was established by the Texas Legislature to provide a permanent berth for the ship and to raise funds for its maintenance. Funds to save the ship from the scrap heap were raised in a campaign conducted by Mr. Lloyd Gregory, the first chairman of the Battleship Texas Commission. During the fund-raising campaign, schoolchildren from all over the state were asked to contribute nickels and dimes to help save the ship. Interest among the young continues to this day: earlier this year, a flag was presented to the ship by a second grade class in the Houston area.

The Texas had many "firsts" in battle, and in its retirement it achieved another first, being the first ship named after a state to return to that state as a monument. Today, moored in a slip dredged for her at the edge of the San Jacinto Battleground State Park, the Texas is a museum and a popular attraction visited by thousands each year. In the background is the 570-foot San Jacinto Monument. At its base is a museum of Texas and regional history.



Permanently berthed today, near the San Jacinto Battleground Monument (rear).

## THE ASME NATIONAL HISTORIC MECHANICAL ENGINEERING LANDMARK PROGRAM

This nation's Bicentennial Celebration has sparked The American Society of Mechanical Engineers to institute a History and Heritage Committee. The charge given these people is to use volunteer assistance to gather data on everything that has a mechanical engineering connection 75 or so years ago. Each Section of the ASME has such a committee to gather data on local sites and artifacts.

The History and Heritage Committees have settled on attaining two objectives: (1) a listing of industrial operations and related mechanical engineering artifacts in what they have designated as a "Historic Engineering Record," and (2) a "National Historic Mechanical Engineering Landmarks" program. The former is a record of detailed studies of sites in each local area; the latter is a demarcation of local sites which are of national significance -- people or events which have contributed to the general development of mankind.

The overall objective of the ASME's History and Heritage Committees is to promote a general awareness of our technological heritage among both engineers and the general public. To attain this objective, new material is continually being gathered with a view toward publishing a supplement to the local Record when sufficient new sites and artifacts of mechanical engineering have been uncovered.

The U.S.S. Texas is the tenth landmark to be designated since the program began in 1973. The first nine are:

Ferries and Cliff House Cable Railway Power House, San Francisco, Ca - 1973  
Leavitt Pumping Engine, Chestnut Hill Pumping Station, Brookline, MA - 1973  
A. B. Wood Low Head High Volume Screw Pump, New Orleans, LA - 1974  
Portsmouth-Kittery Naval Shipbuilding Activity, Portsmouth, NH - 1975  
102-inch Boyden Hydraulic Turbines, Cohoes, NY - 1975  
5000 KW Vertical Curtis Steam Turbine-Generator, Schenectady, NY - 1975  
Saugus Iron Works, Saugus, MA - 1975  
Pioneer Oil Refinery, Newhall, CA - 1975  
Chesapeake & Delaware Canal, Scoop Wheel and Engines, Chesapeake City, MO -  
1975

## BATTLESHIP *TEXAS*, VETERAN OF NORMANDY

The USS *Texas*, which was commissioned nearly eighty years ago, is the only intact warship that served in both world wars. The *Texas* participated in the invasion of Normandy in 1944 and in 1945 headed for service in the Pacific, painted a dark camouflage blue. Following the war the battleship *Texas* was painted gray; in 1948 she was decommissioned and moored. Her tanks were filled with water, and the hull sat in mud for forty years until restoration efforts got under way.

By then the ship was part of the Texas Parks and Wildlife Department. Fund-raising efforts to restore the *Texas* included a program supported largely by Texas school children. Two Bits for the *Texas*. They raised \$60,000. Other contributions were secured by

the Battleship *Texas* Advisory Board, professional consultants, the U.S. Navy, and philanthropic foundations throughout the state. (Materials and services were donated.) The battleship was moved from her moorings near Houston to Galveston where structural restoration was completed.

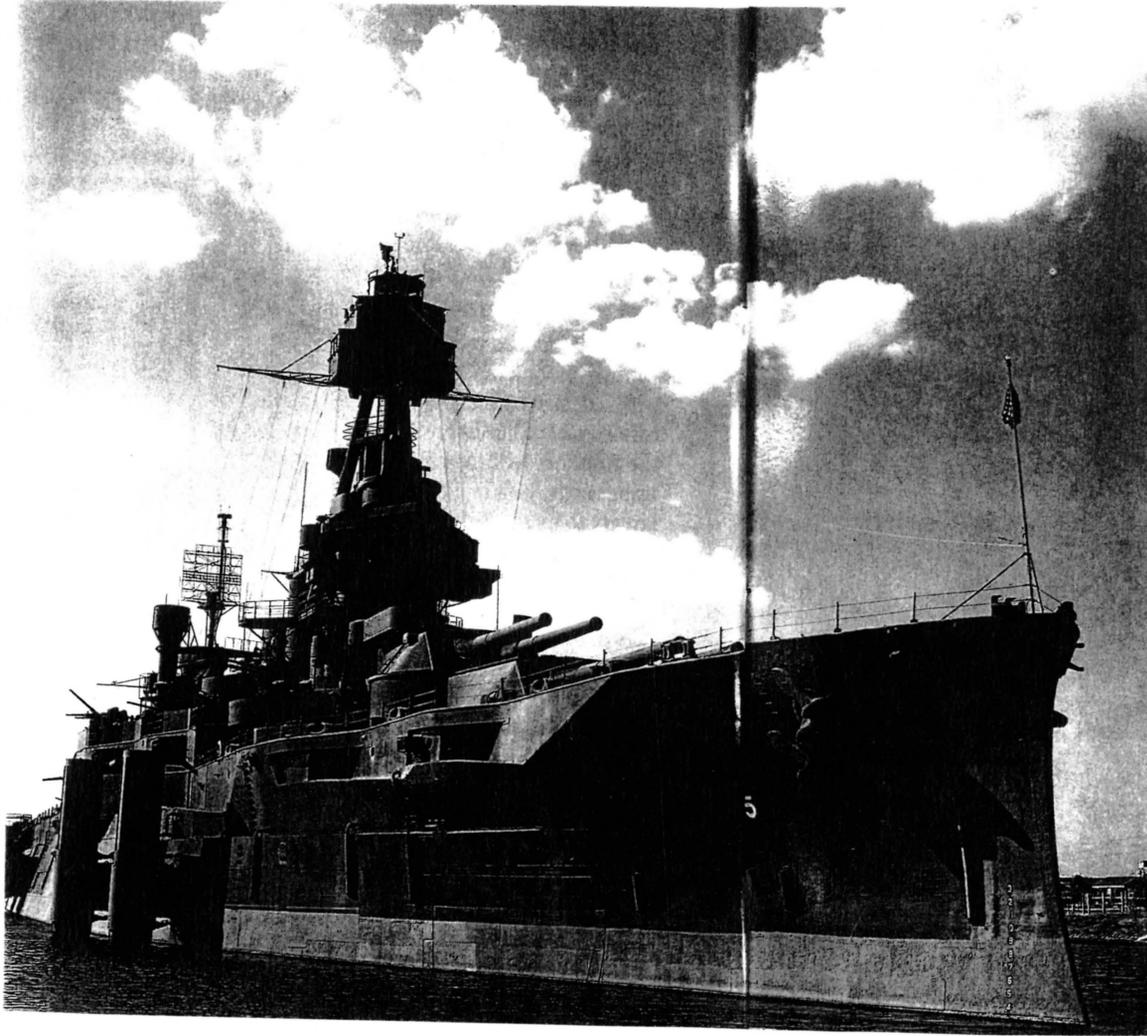
The *Texas* had been just months from falling apart. Leaks had undermined the steel structure and cladding, and nearly three million gallons of water and oil were removed from the hull to increase buoyancy. Over the course of twenty-one months the ship's structure, hull, and steel main deck and superstructures were restored to their condition and appearance in 1945 when the *Texas* cruised the Pacific. Guns and shields were replaced; ten period forty-millimeter guns were acquired from the Navy, restored, and installed; a radar antenna was replicated, and the ship's wood deck (which was

torn out in the 1960s) was replaced. The exterior was sandblasted and painted Measure 2 Blue.

The battleship was taken back to San Jacinto State Park and opened to visitors in 1990, and restoration efforts continue. Below-deck living quarters are now being restored, and missing lifeboats are to be replaced.

Reaction to the restoration has been favorable, although the dark blue color has taken some old-timers by surprise. Restorers say, however, that the color most remember will slowly return as she basks in the Texas sun.

*Restoration of the battleship continues at San Jacinto State Park near Houston.*



(F) MIGHTY T'S MASCOTS



(C) PIPING THE ADMIRAL ABOARD



(E) WATERTIGHT DOORS



*We saw where men fought and died*

(A) SHIP SHAPE  
Chief "Tiger" McKeown, who served aboard the "T" in all her battles, is always proud to show visitors his sea-going machine. Many other tools of war were exhibited.

(B) MISS SCORES A HIT  
The big "T" anti-aircraft gun provides an endless source of fascination for the thousands of children that swarm aboard the Texas monthly. This young miss tests her proficiency on one of the starboard guns.

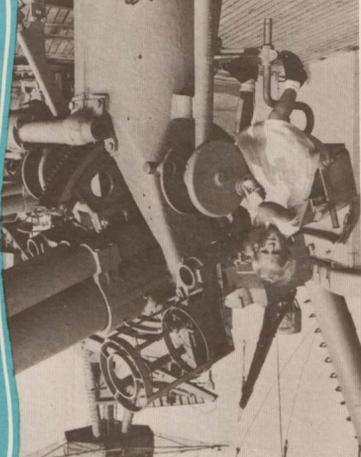
(C) PIPING THE ADMIRAL ABOARD  
Rear Admiral J. J. Clark, commander of the fleet, is piped aboard as a recent Medal of Honor recipient.

(D) GUNNERS' MATES  
The young TEXAS visitors see their sights on imaginary ships over the Houston Ship Channel.

(E) WATERTIGHT DOORS  
There's no danger of getting wet aboard the TEXAS now, but visitors are always fascinated by the ship's watertight doors which safeguard ship and crew during battle hours.

(F) MIGHTY T'S MASCOTS  
Chief Jack McKeown, captain of the Texas, and her mascot, Texas Pat and Texas Poppy.

(B) MISS SCORES A HIT



(D) GUNNERS' MATES



(A) SHIP SHAPE

### The People of Texas

#### GAVE A HOME TO A HEROINE OF TWO WARS

On San Jacinto Day, April 21, 1948, in colorful ceremonies witnessed by thousands of proud Texans, the Battleship USS TEXAS was decommissioned, presented to the state, and recommissioned as flagship of the Texas Navy. Across the nation, radio listeners heard Captain Charles A. Baker read the impressive decommissioning ceremonies, followed by a bugler's taps; heard Assistant Secretary of the Navy Mark Edwin Andrews present the ship to Texas' governor Beauford H. Jester; heard Fleet Admiral Chester W. Nimitz' dramatic account of the old ship's participation in World War II.

The ship became the property of the state of Texas, as a gift authorized by the congress of the United States. The Texas legislature established a commission to provide a permanent berthing place for the TEXAS, and to raise funds for its establishment and maintenance. Generous gifts from thousands of Texans made it possible to bring the TEXAS home. The school children of the state, the motion picture industry, and the Texas Junior Chamber of Commerce were especially helpful in the money-raising campaign which provided the funds necessary to construct the permanent berthing place. Admission fees, and proceeds from the sales of this pamphlet are used to defray operating and maintenance expense.

LLOYD GREGORY, *Chairman,*  
*Battleship Texas Commission*

- Jim D. Bowmer
- C. H. Coffield
- Mrs. Murray Ezzell
- R. C. Gusman
- Jos. B. Hutchison
- Adm. S. M. Robinson
- Mrs. Mack Webb
- Col. L. O. Wells

CAPT. JOHN McKEOWN, *Ship Custodian*  
ALLAN H. KING, *Treasurer*  
MRS. ELLEN S. TATROE, *Secretary*  
F. A. PELLERIN, *Museum Curator*

#### FACTS ABOUT THE TEXAS

Length overall	573' 0"
Breadth extreme	106' 0"
Height at top foremast	138' 0"
Draft (normal)	28' 6"
Tonnage	35,000
Horse power	27,000
Complement: (Peace time)	
Crew	1625
Officers	100
Marines	85
TOTAL	1810

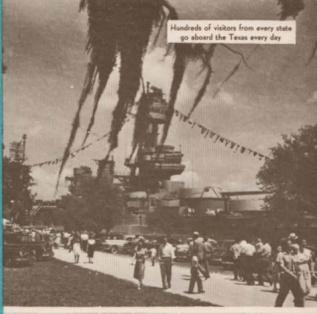
AMMUNITION EXPENDED IN WORLD WAR II:	
MAIN BATTERY (14 inch)	4,278 rounds
SECONDARY BATTERY (5 inch)	3,885 rounds
A. A. BATTERY (3 inch)	584 rounds
MACHINE GUN BATTERY (40 MM)	3,721 rounds
MACHINE GUN BATTERY (20 MM)	2,275 rounds
Total miles travelled in action against the enemy	121,000
Total number of days in actual operation against the enemy	478



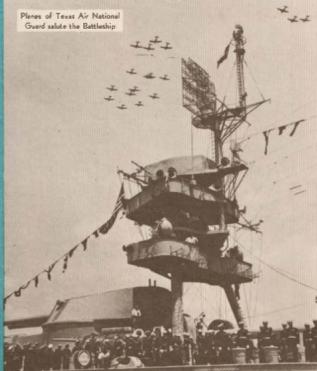
VETERANS



LLOYD GREGORY, Chairman Battleship Texas Commission  
GOV. BEAUFORD H. JESTER  
FLEET ADMIRAL CHESTER W. NIMITZ



Hundreds of visitors from every state go aboard the Texas every day.



Planes of Texas Air National Guard salute the Battleship



A MESSAGE  
from  
Fleet Admiral Chester W. Nimitz

TO VISITORS ABOARD THE TEXAS:  
Here in the shadow of the great monument to the heroes of San Jacinto, you are standing today on the decks of a great fighting ship—the battleship which bears the name of the state whose independence was secured on these hallowed grounds.  
By demonstrating the fighting spirit of Texas to our enemies in two world wars, this gallant ship has proved worthy of her name. Neither the Germans at Normandy, nor the Japanese at Okinawa, will ever forget the weight of the guns, nor the courage of the crew of the TEXAS. Texans are proud of the privilege of providing a snug harbor for the old "T", and preserving her as another symbol of Texas greatness. It is particularly fitting that her final resting place be adjacent to these historic battlegrounds where so much of the Lone Star State tradition was born.  
As admiral of the Texas Navy, I am proud to have the U. S. S. TEXAS under my command.  
CHESTER W. NIMITZ  
Fleet Admiral, USN

### Official Log

OF THE VISIT OF

TO THE  
**BATTLESHIP TEXAS**  
SAN JACINTO BATTLEFIELDS

DATE \_\_\_\_\_

TWENTY-FIVE CENTS  
ALL PROCEEDS TO  
BATTLESHIP TEXAS FUND



INSPECTION BY GENERAL "IKE"

## THE STORY OF THE U. S. S. TEXAS

A 34 year old veteran of two world wars came home on April 21, 1948, to start living out an honorable retirement.

The Battleship TEXAS, commissioned in 1914, saw action with the Sixth Battle Squadron in World War I, and carried the name of her state into battle from the shores of Normandy to the beaches of Okinawa in World War II.

The story of "Old T", as the battleship is familiarly called, began with commissioning ceremonies at the Norfolk Navy Yard on March 12, 1914. Hailed as the pride of the fleet, the TEXAS was a two-stacked, cage masted triumph of Naval architecture. Her twin-gunned, fourteen-inch turrets were of the latest design, and she was reputed to have the largest and most efficient set of engines afloat.

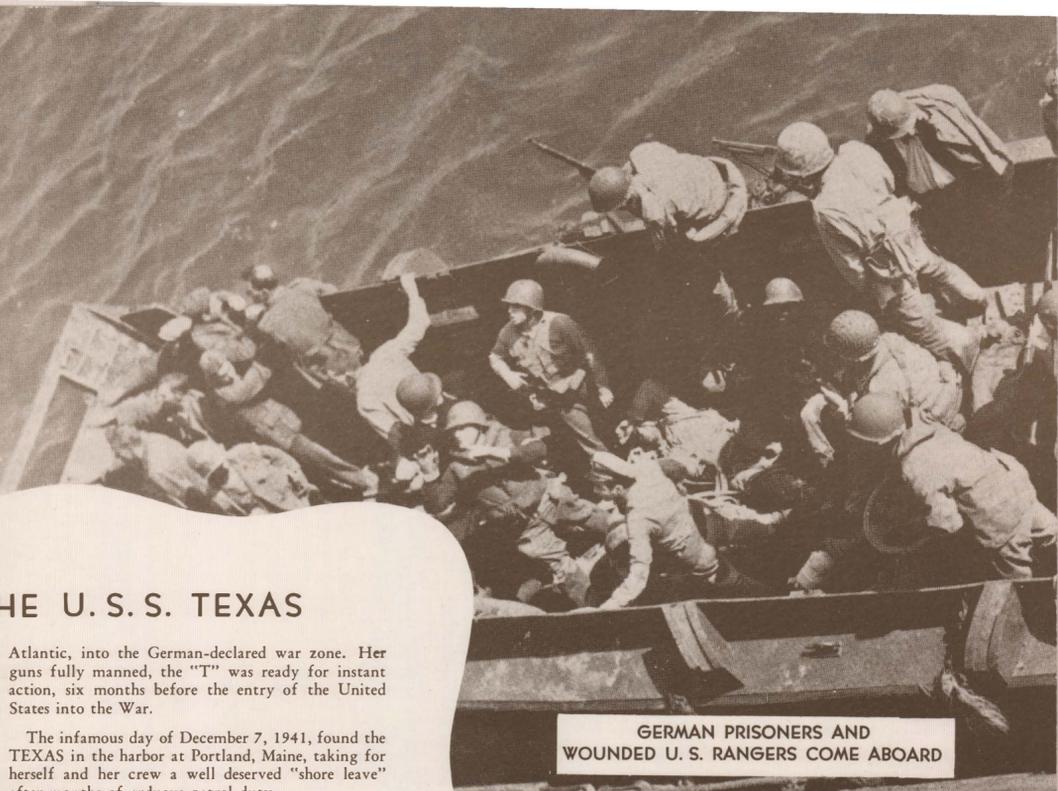
The TEXAS joined the fleet on her maiden voyage without benefit of a shakedown run. But while "Old T" shook down with the fleet, she fulfilled all requirements of the Navy Department. In speed trials she behaved like a veteran, attaining the required 21 knots with ease. Her first gunnery practice was rated "excellent", and thus was laid the foundation for her permanent reputation as one of the finest gunnery ships in the Navy.

A 1917 incident gave birth to what was to be accepted by all hands who ever served on her, the TEXAS' battle cry. Hard aground on Block Island, the TEXAS was unable to move under her own power, or to be moved by tugs. The crew of the NEW YORK, lying to close aboard, were watching the operation and when it appeared the "T" would not move they commenced to cheer in unison—"Come On, TEXAS!" No sooner had the cheering started than the "T" started to quiver, and almost imperceptibly to move, and suddenly she was backing cleanly and smoothly clear of the island. Since that day, "Come On, TEXAS!" has been the motto of the ship, and has followed her throughout her naval career. Many times during the recent war, messages were received from old hands who had served aboard the TEXAS in the past, wishing her luck and admonishing her crew with the battle-cry "Come On TEXAS!"

The TEXAS joined the Grand Fleet as a unit of the Sixth Battle Squadron on January 30, 1918, and on her fifth day out fired her first shot of aggression. The Grand Fleet was at sea to hunt down the German Fleet on a rumor it had put out to sea. The TEXAS sighted a submarine and fired at it from one of her five-inch guns. The shot landed in the water at the exact spot where only a few minutes before the enemy "U-boat" had submerged. Expecting momentarily to see an oil slick or a water boil to indicate a hit, the lookouts were greeted instead by the tell-tale wake of a torpedo aimed for the TEXAS. Acting quickly, the big ship was swung hard right and the torpedo passed harmlessly alongside.

With that war over, the "T" returned to the United States Fleet and in 1919 joined the Pacific Fleet to start a long career as a member of the battle line in peace time where she inspired officers and crew alike with stories of bravery and achievement. Modernized in 1925-26 she rejoined the fleet, and served at times as flagship, carrying aboard her many now-famous personages. By 1940 she had become the flagship of Admiral Ernest J. King, USN, Commander-in-chief of the Atlantic Fleet.

In April, 1941, the "T" started preparing for another war and shortly thereafter began the long and tedious neutrality patrols across the stormy North



GERMAN PRISONERS AND WOUNDED U. S. RANGERS COME ABOARD

Atlantic, into the German-declared war zone. Her guns fully manned, the "T" was ready for instant action, six months before the entry of the United States into the War.

The infamous day of December 7, 1941, found the TEXAS in the harbor at Portland, Maine, taking for herself and her crew a well deserved "shore leave" after months of arduous patrol duty.

Quickly loaded with provisions and ammunition, the TEXAS was soon readied for the role she was to play in World War II. By this time the "Old Lady" did not expect a starring role in the "big show", but her presence was forcibly felt in every theatre of action in the long war. She was at Casa Blanca, at Gibraltar, at Morocco, at Normandy, at Iwo Jima and finally, at Okinawa.

Off the shores of North Africa, she poured her fourteen-inch projectiles into ammunition dumps, and into armed columns moving up to the aid of the enemy. On June 6, 1943, the mighty "Old T's" dawn bombardment hurled 250 projectiles into coast defense batteries, demolishing lethal 155mm installations and paving the way for invasion forces. At Cherbourg, in company with the NEVADA, ARKANSAS and a small cruiser force, she engaged other coastal batteries. And it was at Cherbourg, during a gun duel with the German Navy, that the TEXAS was tagged by the enemy for the first time, hit by two 288mm projectiles. One struck the top of the conning tower and exploded, wiping out the navigation bridge, killing one man, and injuring fourteen others. The other struck the side of the ship and penetrated to an officer's stateroom, there to lie as a "dud", and causing no damage except an above-the-water-line hole in the side.

Her wounds healed, the "T" was dispatched to the other side of the world to join a mighty armada under Admiral Chester Nimitz—the Pacific Fleet. At Iwo Jima she blasted enemy installations on Mount Suribachi. With pounding hearts her crew witnessed the now-famous flag raising and cheered lustily as the gallant ship steamed on to participate in the invasion of Okinawa. Here the TEXAS expended four complete shiploads of ammunition in her preliminary bombardment. She shot down "kamikaze" planes. Her crew set a near record by remaining at battle stations for a period of fifty days, sleeping at their posts and beside their guns, "chowing down" at odd hours.

The valiant crew which brought the gallant "Old T" through the most grueling naval operation in history, brought her home after V-J day to receive a grateful "well done" from the nation she had served so well.

Long past the retirement age for battlewagons, the heroine of two wars seemed doomed for oblivion and possible destruction. But the people of the state of Texas, rallied by their governor, Beauford Jester, under an act of the Fiftieth Legislature, created a Battleship Texas Commission for the purpose of establishing the "Old T" as a shrine of Texas patriotism. Today the TEXAS, symbol of freedom, dream of democracy, is permanently moored at her final resting place. In the still, shallow waters beside the towering San Jacinto monument, the TEXAS lies sheltered from the storms and turbulence of the deep oceans which were her highways for more than thirty years. In peace, as in war, she will live on to inspire future generations of Texans to "carry on" in the traditions of their forefathers who brought about the birth of freedom for Texas near the site where the battleship now rests.



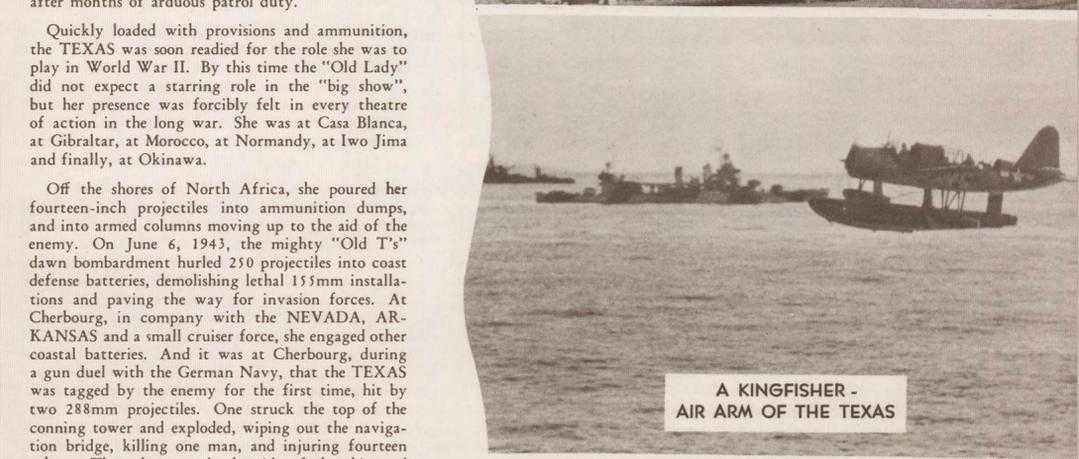
HOSPITAL CORPSMEN CARRY A WOUNDED RANGER ABOARD THE TEXAS



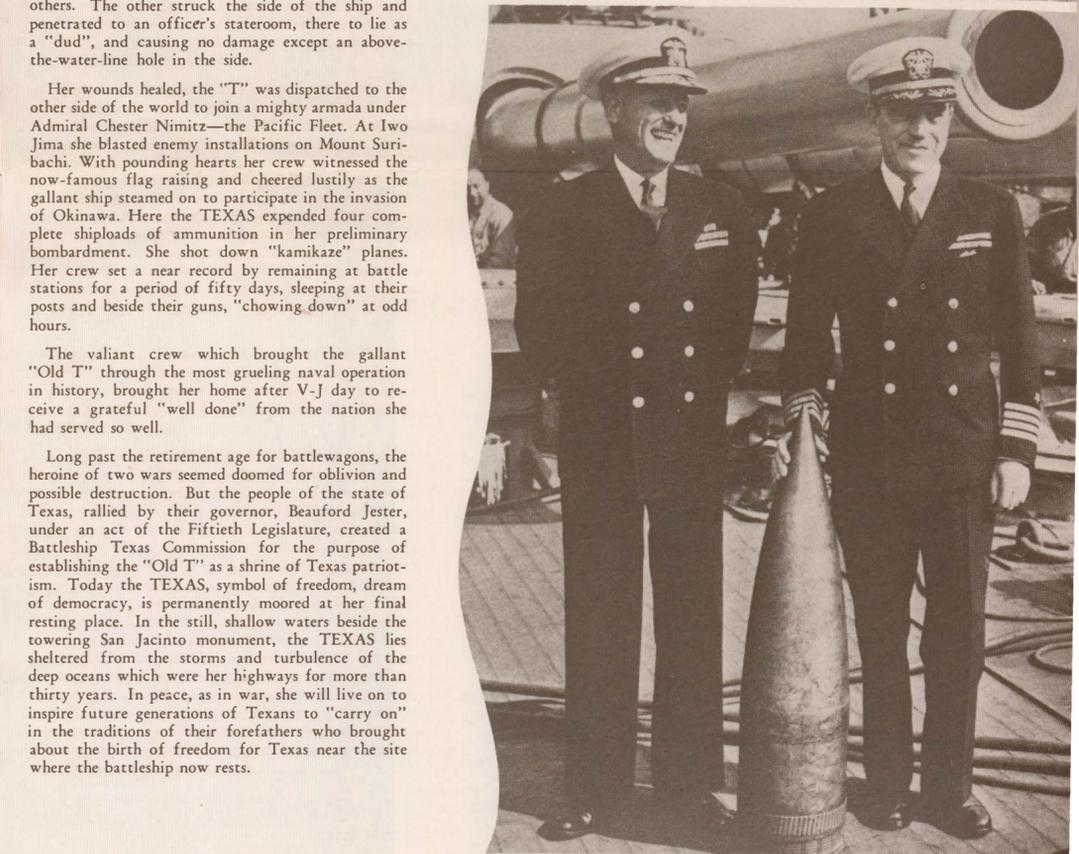
"FULL DRESS"



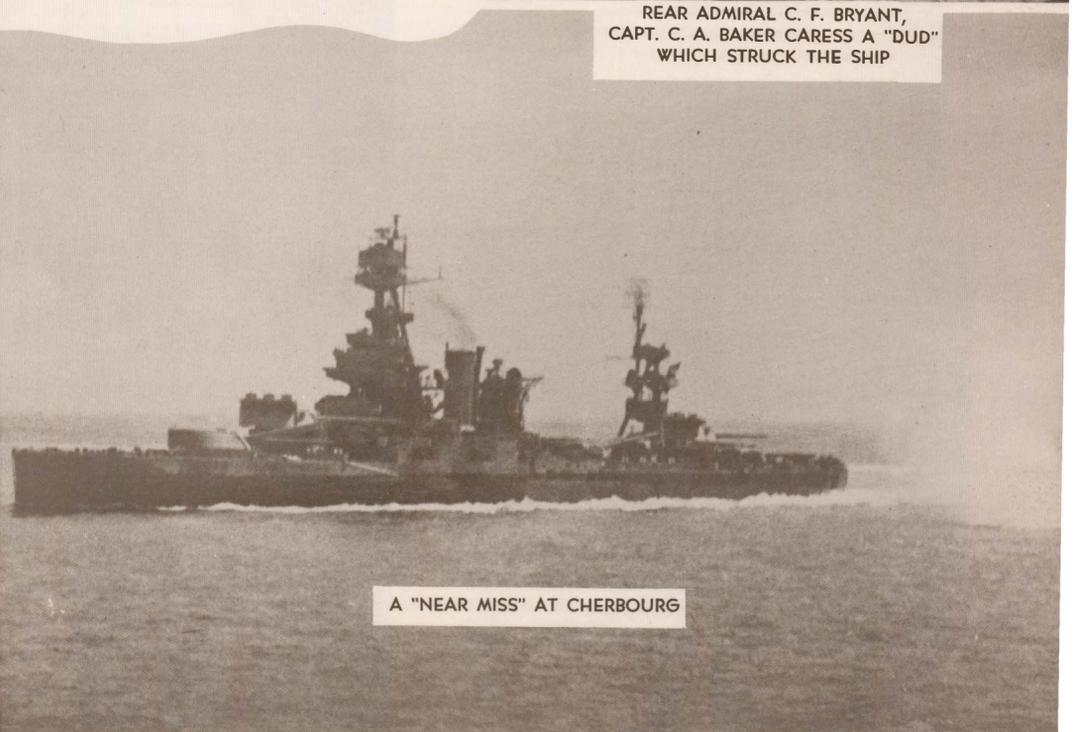
ENTERTAINED "AT SEA" THE TEXAS AT TARANTO, AUGUST, 1944



A KINGFISHER - AIR ARM OF THE TEXAS



REAR ADMIRAL C. F. BRYANT, CAPT. C. A. BAKER CARESS A "DUD" WHICH STRUCK THE SHIP



A "NEAR MISS" AT CHERBOURG

NATIONAL HISTORIC LANDMARK  
BIENNIAL VISIT REPORT

SITE Battleship Texas

LOCATION San Jacinto Battleground State Park

DAY(S) VISITED August 10, 1977  
Month Day(s) Year

VISITED BY Thomas E. Lubbert  
(Name)

Superintendent  
(Title)

P.O. Box 7408, Beaumont, Texas 77706  
(Address)

838-0271 ext. 373  
(Phone Number)

PERSON(S) CONTACTED, WITH TITLE(S) \_\_\_\_\_

Captain A. G. Taylor

\_\_\_\_\_

\_\_\_\_\_

REPORT SUBMITTED BY:

Name Thomas E. Lubbert

Title Superintendent

Signature *Thomas E. Lubbert*

Date August 19, 1977

REPORT

I. Did you have any difficulty making contact with the owner or administrator in advance of your visit? Yes \_\_\_\_\_ No X If yes, please describe:

II. Did you feel that your visit was welcome? yes not welcome? \_\_\_\_\_  
If not, please describe circumstances:

III. Was the material provided by SWRO ample and helpful? Yes X No \_\_\_\_\_  
If not, please explain:

IV. Approximately how long did you spend at the site? 1 1/2 hours

V. Please describe the condition of the site (structure(s), grounds, furnishings, etc.)

I thought the ship was in good condition considering the apparent state it was in prior to existing stabilization and reconditioning efforts.

VI. Based on the reasons for the original designation, is it your opinion that the integrity of the site is being adequately maintained? Yes X No \_\_\_\_\_  
If no, please explain:

VII. Please describe in detail the management of the site (owner-managed, employee-managed, government-managed, etc.):

I believe the article in the Texas Monthly, sent to me in my briefing material adequately describes the problems relating to the management of the ship. The Battleship Texas Commission is a non-government group which receives no appropriations and operates entirely on monies received from visitation.

VIII. In your opinion, is the site management adequate? Yes X No \_\_\_\_\_ If you have any reservations, please describe:

I feel it is more than could reasonably be expected from such a small dedicated force with limited money.

IX. Is the site used for commercial purposes? Yes \_\_\_\_\_ No X If yes, does this present any problems related to maintaining the integrity of the site? Yes \_\_\_\_\_ No \_\_\_\_\_ If yes, please describe:

X. Please describe any financial problems related to the site:

There is a shortage of funds to carry out necessary repair and stabilization of the ship. Captain Taylor said they had requested and were receiving (or hoped to receive) funds from the National Park Service to repair the wooden decks.

XI. What other problems did you encounter, if any?

Some portions of the superstructure are becoming hazardous due to the need of costly maintenance.

XII. What specific suggestions, if any, did you make to the owner or administrator?

Nothing in particular except we would try to work with them and help in any way possible.

XIII. What follow-up action do you suggest for the SWRO and/or others? I think a special effort should be made to bring the overall condition of the ship up to an operating standard which can then be maintained on the income received from visitors. From our discussion something in the range of \$400,000 would be needed to get everything shaped up. I have no idea how much an amount could be made available, but a battleship setting at a dock seems to have a way of rusting down before your eyes without a lot of work being done.

XIV. Is there any urgency regarding the suggested action? Yes X No \_\_\_\_\_

If yes, please clarify:

Something should be done as soon as possible to help the Commission out.

XV. If this site is being managed under the terms of a signed agreement, has the plaque been mounted? Yes X No \_\_\_\_\_ If yes, describe exact location. If no, please explain why it has not been accepted or not been mounted. Also, describe location of the Certificate.

It is mounted on a bulkhead on the main deck, visible as you get off the gangplank.

#### Questions?

General - Captain Taylor is apparently an extremely dedicated person doing an excellent job with materials at hand. I found my visit most enjoyable.

(PLEASE ENCLOSE PHOTOS, CLIPPINGS, COPIES OF CORRESPONDENCE, OR ANY OTHER MATERIALS WHICH WILL SUPPLEMENT THE INFORMATION GIVEN IN THE REPORT)

# Battleship TEXAS

## Furnishing Documentation for the Brig – Carpenters' Shop Area

Portside, 3rd Deck

Daniel J. Crouch  
May 1995  
Interpretation & Exhibits Program

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This report documents the furnishing associated with three contiguous areas on the port side of 3rd Deck: the Brig (five cells and a connecting passageway), the Carpenters' Shop (presently a single space, Compartment C-102), and the short length of passageway in front of the Brig entrance. It was undertaken because of the need to recover insofar as possible all the historic information here before it is permanently altered by the restoration process. (A schematic plan map for these areas is presented below.) It creates a unified record of what was done and is a working statement of results, describing collection provenance and acquisition technique necessary to proper curation. The analysis done for this report is preliminary, and was undertaken only to understand the nature of what was being found and its implications for the ship. More can be learned by additional study of the collection.

The contents of this collection derive from three contexts. The first is within the spaces generally (on the deck, on frames, etc.). These can rightfully be said to be within the compartment and open to it. If these were undisturbed here for any period of time it can only be because they were inconspicuous or otherwise of no interest to those who did see them. The second context is inside of the ventilation system by which air is circulated through the lower decks. The third is in cul-de-sacs that were sealed in the past.

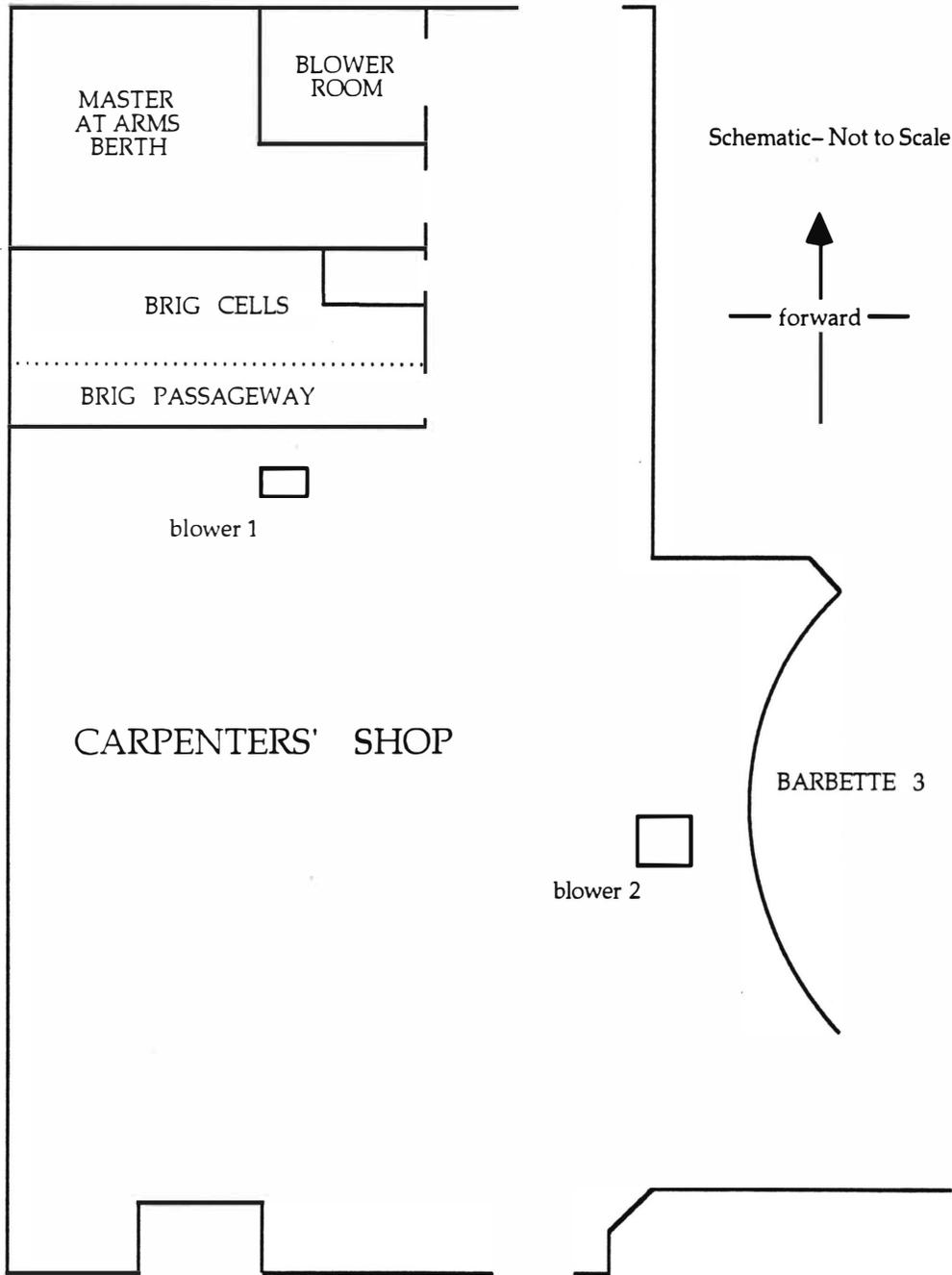
The Brig is located on the port side of 3rd Deck between frames 79 and 82. It includes a single unbroken length of passageway which communicates with the aft end of each of five cells. The passageway has a single entry, through a locking door of the same design as that securing each of the cells.

The Brig is accessible to the visiting public only through the Carpenters' Shop. This large compartment is immediately aft of the Brig and extends from frames 82 to 93, and from the hull starboard to Barbette 3. The Brig restoration project thus also entailed some restoration of this area and so is included here.

The passageway in front of the Brig connects the portside Ammunition Passage Way (which traverses the middle or "B" section of the ship) to the Carpenters' Shop. Other compartments and lockers also open onto it. The most important of these for purposes here, is the Master-at-Arms Berth, immediately forward of the Brig. The association of this compartment with the Brig is even closer than is implied by its current berthing use. Drawings dating to 1914 and to the post-1926 modifications, which while they indicate that the conformation of the spaces and even their ventilation systems have remained unchanged, also

# Brig-Carpenters' Shop furnishings documentation

label this compartment as a "Detention Cell." Its short entryway is secured by both an inner (wire mesh) and an outer door. A good interpretation is that this compartment was a group holding cell while the five Brig "cells" were for solitary prisoners.



The cells in the Brig are numbered from port to starboard and are entered through single doors. The cells are quite varied in configuration and detail; only cells 2 and 3 are substantially similar. Cell 1 is different in that the hull is its port bulkhead, and it is fitted with a shelf and other features. Cell 4 is half height. Cell 5 is half as deep as the others albeit full height.

The steel plate doors are hinged on their outboard edges and swing out into the passageway. Each has a mid-level, horizontal crossbar which swings up over a hasp to the unhinged side. Lines of holes drilled through the door plate above and below this crossbar provide some ventilation and the only light to the cells.

The door to cell 4 is unlike the others in that it is shorter and has a scalloped top edge. At some time in the past, this door was probably just as high as the others. The only reasonable explanation is that it was cut down through one of its rows of ventilation holes to reduce its height. This may have happened when the air trunk was modified (perhaps at the same time its damper was removed), possibly reducing the height of the cell. The date of this change is not known although early blueprints of the area suggest that even then this cell had a superimposed air trunk and was of reduced height.

On the other hand, microfilm showing the ship's original plans suggests that the ventilation systems both in the Brig and the Carpenters' Shop are essentially the same now as then. So too, much of the architecture remained unchanged. Modifications appear minor. However, their expression and the reasons they were made remain issues needing study. In this regard it is interesting to note that the artifacts from the "dead air space" above cell 4 (discussed below) appear not to date before 1933.

The air ventilation systems on a ship, and particularly a warship, are necessarily complicated. Much has yet to be learned about this, even in the small area addressed in this report. The following microfilm drawings proved to be particularly useful in studying this subject:

<u>roll-image no.</u>	<u>nominal ship / date</u>	<u>misc.</u>
32120-07-28302A	BB34 / 1913	amidship air systems 30, 31, 33-35
32120-07-28302B	BB34 / 1913	amidship air systems 30, 31, 33-35
32119-09-35B103L	BB35 / 1912	berth deck joiner plans
32119-09-35B106L	BB35 / 1912	ventilation for evaporator & aft dynamo rooms

Both metric and Imperial measurements were used during the course of these investigations. Simple Imperial (feet and inches) is the default, and most correct for this ship. However, the limited available equipment did not allow use of one scale at all times.

The expression "deposit" refers to the total accumulation including artifacts and other material where they combine to have some measurable thickness. "Matrix" refers to that part of the accumulated "deposit" exclusive of individual artifacts.

Deposits were not screened to retrieve artifacts. Rather, artifacts were collected as they were observed. Where appropriate, matrix was also collected for eventual sampling and sorting.

In addition to the collection itself, all notes and photographs made in the field will be turned over to the curatorial staff at the Battleship where they can be permanently repositied.

The following report is divided into nine parts excluding this introduction and a conclusion. Each part addresses in roughly chronological order the individual phases of the project. These include the following:

<u>Phase</u>	<u>Dates</u>	<u>Area Examined</u>
Previously Locked Cells	8/23/94 - 8/24/94	cells 1, 2, and 3
"Dead Air Space"	9/15/94 - 9/17/94	enclosed air space connecting cells 3 and 5
Additional Brig Findings	09/94	second dead air space; initial study of air trunk
Brig Passageway Air Vent	10/7/94	air lines in the Brig passageway
Cell 4 Air Trunk	10/12/94 - 10/14/94	air trunk passing over cell 4
Carpenters' Shop Blower 1	10/27/94	air box serving the blower at the forward end of the Carpenter's Shop (fr. 83)
Carpenters' Shop Blower 2	12/09/94	air box serving the blower on the starboard side of the Carpenters' Shop (fr. 87-88)
Miscellaneous Finds	11/21/94	loose items found primarily in the Carpenters' Shop but also in the Brig and the passageway in front of the Brig entrance
"Backdirt"	12/9/94	Brig and Carpenters' Shop waste boxes

Each part describes the circumstances of collection, the techniques used, the material collected (if any), and something of what these can tell us about that area and the ship. For the most part, they have been written to stand alone, and thus some redundancy is present between them and cross-references are few.

An additional section has been added to present information on the ventilation system which was gathered too late to be fully incorporated into this report. This section is titled "Documentary Data on the Ventilation Systems."

This report focuses on that original and more fragile material which can be removed from the restored spaces and incorporated into the ship's collections. However, there is another class of historic fabric which is also fragile but which cannot be so cared for. This includes the signage painted onto bulkheads, and the words written onto locker and bulkhead surfaces. In the course of BB35 restoration such has usually been treated as an architectural rather than a furnishings matter, leaving the burden of dealing with such issues as recording and preservation versus re-creation to the restoration architects. Therefore historic fabric such as this is not addressed here only because of the division of labor arrived at over the years of ship's restoration. Its absence should not be construed as a suggestion that it is less worthy. It is fragile, that is subject to damage or destruction through the restoration process, and every bit as important (to furnishings and architecture) as is the portable material presented in this report.

## Introduction

Margarita Marders, Acting Curator of the ship, was interviewed about the history of the Brig in March of 1995. She reported that the Brig was last painted about 1983 or 1984. It suffered from leaks through the overhead, the worst of which was no later than 1986. In spite of efforts to stop them, the leaks continued and may have even occurred while the ship was in drydock.

The Brig was open to visitors until the current barrier was constructed sometime after a particularly bad leak in 1986. During this period, the cells required constant cleaning because of the large amount of trash which was put in them. This was aggravated by the fact that during the early years of TPWD operation of the ship, visitors continued to be allowed to bring food and drink aboard. Although such was sold aboard ship during Commission operation of the ship, all of this was brought aboard probably from the concession stand still present on shore. Until about 1988, soda pop continued to be sold aboard, although this was in cans out of a machine.

The cells were no longer kept clean after about 1987 when Marders padlocked them. Up to the time of this investigation, cells 1 through 3 were padlocked. These is every reason to believe that the padlocks cut from their doors at the start of this project are the same ones installed at that time.

The artifacts from these cells fall into two classes. The largest in number is of those items lying loose on the deck. These are the items that could be seen through the cell doors and based on the nature of these items and information provided by Marders, this deposit most likely dates to the 1986 to 1988 period. This class is virtually non-existent in cell 1. Because of this and other differences, cell 1 is discussed before cells 2 and 3.

The second class is items found on overheads, in crannies between architectural members, in scuppers (in the case of cell 1), and "caulk" samples.

## Cell 1: Description

When the cells were opened it was immediately apparent that cell 1 had been treated very differently from the other two. Cells 2 and 3 had been flooded some time in the past. The artifacts under this water line are coated with rust-colored sediment that largely obscured their original colors. This was not the case in cell 1. If it was ever flooded, it has been subsequently opened, cleaned, and painted. Although there is no apparent reason other than the effects of the water, bodies of insects were found here but not in either cells 3 or 4.

Cell 1 is also structurally different from the other two. First, it measures 60.5 inches wide and 96 inches deep at the floor. These are its deck level dimensions because the cell becomes smaller toward its overhead. The port side of cell 1 is the ship's hull; in this area the hull slopes inboard, narrowing to main deck width two decks above. The hull here is also slightly concave. The starboard bulkhead is flat and vertical.

The presence of the hull brings with it other differences. A vertical frame is present against the mid-cell hull. Large nuts that secure the armor belt, project from it and two, large diameter electric cables (hung from the hull possibly as part of the degaussing system) pass through the cell parallel to the deck at about waist height.

Scuppers (drainage channels in the deck) are present against the hull. The outer is 5.5 inches wide; the inner is 4.75 inches wide. These are open to the cell, but no currently functioning outside connection is apparent.

A metal shelf is attached to the hull along the length of the cell. It is just above the electric cables, 18.5 inches wide, and had a surface 54.75 inches above the deck. The purpose of this shelf is not apparent. It is too high and narrow to have been a good bed.

One notable feature unassociated with the hull is also present. Above the doorway is a support which one would expect to have held a curtain rod. On the opposite (forward) bulkhead are the two screw holes which once sustained the other rod support. The purpose of this curtain rod is not apparent.

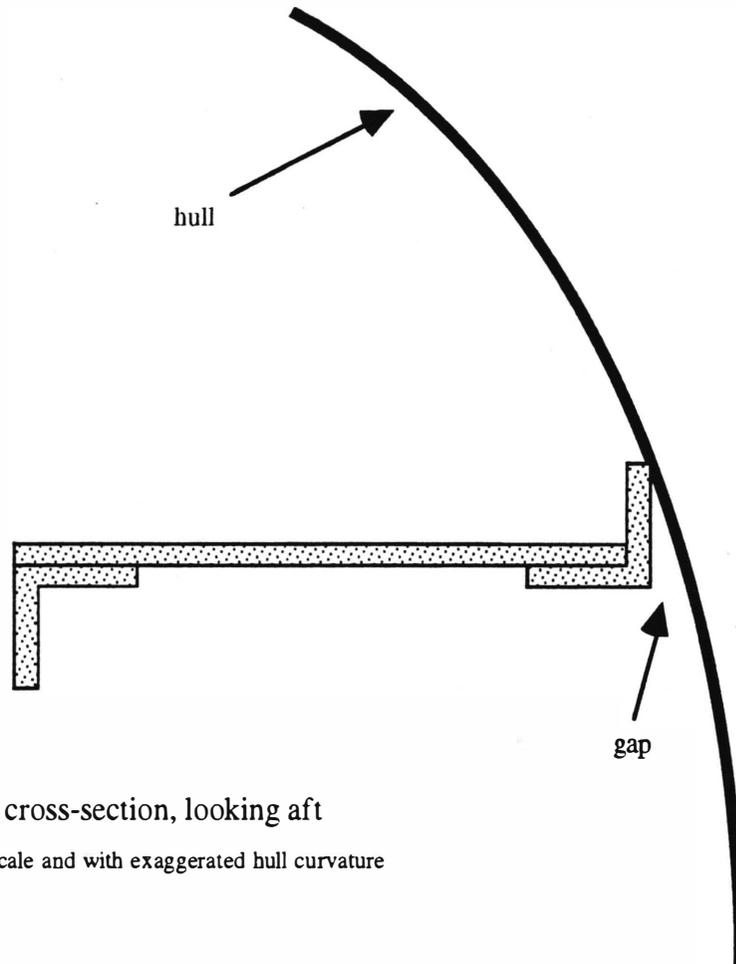
### Cell 1: Artifacts

Cell 1 contained far fewer artifacts than either 2 or 3. Nevertheless, its situation is instructive. Because the scuppers are lower than the deck they tended to accumulate artifacts. This included cigarette butts, peanut shells, and a piece of string.

The shelf in cell 1 has already been mentioned. It is made from sheet steel and lengths of angle iron, the whole riveted together. As mentioned above, the port bulkhead of cell 1 slopes inboard toward the ceiling. Thus where the flat face of the shelf articulates to the curved face of the hull, a natural gap is created between. The gap is against the hull and open to deposit from below, as shown in the following sketch. In some places the narrow opening to this gap has been painted over and sealed. In other areas, however, this gap is still open and artifacts are present. The only artifact

recovered is a piece of paper with gold metallic treatment on one side, like a cigarette or comestible wrapper. Other artifacts could also be present here. If so, these may relate to the Navy's use of the space. The situation of the opening makes it less than conducive to casual deposit. Artifacts found here would more likely originate from long-term occupants than from tourists or hired workmen.

A final noteworthy discovery in cell 1 is what appears to be caulking run along the edge of the starboard bulkhead footing, sealing its juncture with the deck. This caulk extends most of the length of the cell and has been colored to match the deck red. A sample was taken, although restoration of the cell will likely remove all of what remains.



cell 1 shelf cross-section, looking aft

Note: not to scale and with exaggerated hull curvature

### Cell 1: Findings

Cell 1 also had none of the generalized trash deposit present in cells 2 and 3. The sloppy application of paint at the deck level here plus its

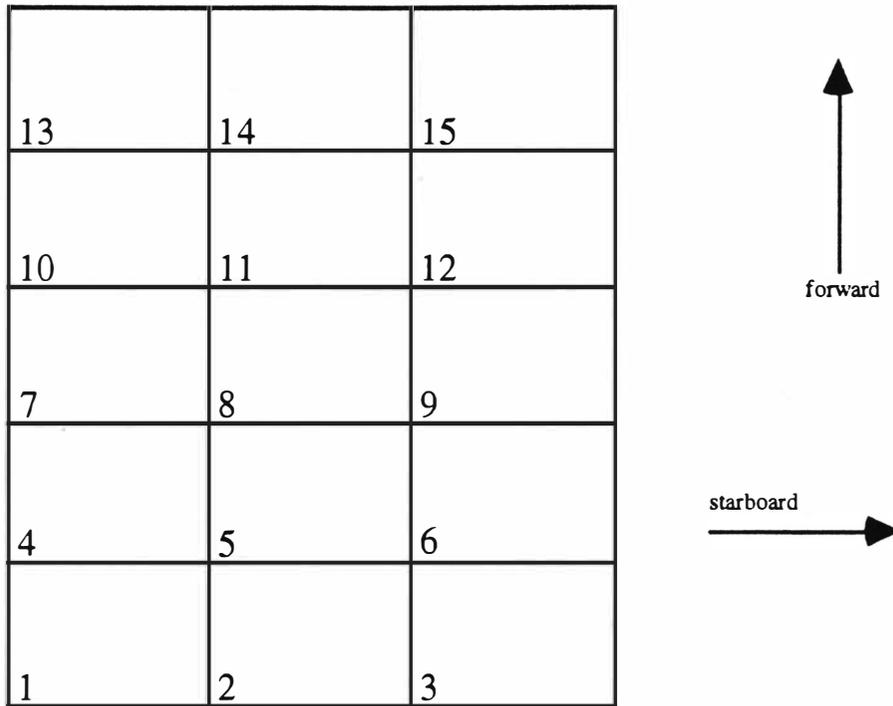
cleanliness suggest that the history of this cell is not the same as that of cells 3 and 4. Cell 1 was clean in a way suggesting it had been deliberately swept out some time in the not-too-distant past. This was further supported by the presence of an electric light in this cell, the only example of such in the Brig. The light had been attached to the curtain rod holder just inside and above the cell door by plastic electrical tape. The tape was in good condition and still flexible. The "light" consisted a light bulb in a simple rubber or plastic socket with a long, thick, black trailing cord. Two electric wires extend from the ends of the cord. The source of power for this bulb is unknown. David Pratt, TPWD ship's electrician, in April of 1995 when asked about lighting of the cells said that he has never done such work, and the cells themselves had remained unlit for the entire period of his tenure aboard. The light was removed without being retained or further documented. However, its presence further distinguishes cell 1 from cells 2 and 3. One explanation might be that cell 1 was kept in better condition for public viewing. However, Marders reports that all the cells were kept lit during the period of TPWD ship's operation. Thus it may have been that for some reason, cell 1 was cleaned while the other two were not. The only explanation for the discrepancy between these two memories is that the cells might have been lit in the early 1980s when control shifted to the Department, with a shut down of this lighting until only cell 1 was displayed. By the time that Pratt came on staff in the later 1980s, visitors were not allowed in the area at all, and the lighting had been removed.

### Vertical Controls

Because most of the cell 1 deck was bare, the location of each collection unit was described as the collection proceeded. The vertical and horizontal controls described below apply to cells 2 and 3 only. Items had little if any observable stratigraphy, and no attempt was made to control for elevation. Certainly there had been no pattern of continuing deposition to seal and separate the artifacts. The small amount of non-artifactual debris collected with the artifacts consists entirely of rust, dust, scale, and paint from the deck and bulkheads of the respective cells. No screening of the material was necessary as a part of the collection process.

Horizontal Controls

Artifacts present on the decks of cells 2 and 3 were collected according to a rectangular grid pattern that was superimposed over the entire floor of each cell. Each cell was measured and then divided into 15 equal-size collection units arranged three across and five units deep. Each unit is numbered with unit numbers ordered as shown in the sketch below, that is sequentially from port to starboard, and by row from aft forward. Thus the size of the individual compartment dictated the size of the collection units.



The following table summarizes the size of cells and collection units. Note that all measurements made during this stage of the Brig documentation are in feet and inches.

<u>cell no.</u>	<u>cell width</u>	<u>cell depth*</u>	<u>unit width</u>	<u>unit length*</u>	<u>unit area</u>
2	47	95	15.7	19	297.7
3	44	95	14.7	19	278.7

\* measured fore to aft

Note: measurements are in inches.

### Factors affecting the distribution of artifacts

Most artifacts were located near the door to the cell. This was particularly the case with the smaller items that would fit through the door vent holes. However, there also seemed to be a tendency for items to be located against the forward bulkhead. The impression left is thus of a secondary factor affecting artifact distribution. This might be explained by the movement of someone in the cell, causing artifact migration from the center toward the periphery of the cell.

### Collection Methods

In cells 2 and 3, artifacts were picked up beginning with the aft-most cells (where the cell door is located) and moving forward. This minimized their disturbance before collection. For the most part this was simply a matter of picking items up. However, a brush was also used to sweep up collection units where many small items or a significant amount of rust or dust was present. Following deck level collection, overheads and possible crannies were searched. In the case of cell 1, the collection procedure was entirely of this latter kind.

### Artifacts

At the time of this writing, the collected artifacts from this stage of the documentation remain unexamined beyond what was seen during collection. However, the character of the cell 2 and 3 material is overwhelmingly of "tourist refuse." At one time food and drink sold aboard ship as well as on shore. This was stopped when the Department took control of the ship in 1983. At the same time, visitors were no longer allowed to bring such on with them.

Artifacts included waxed paper cups (most with Coca-Cola logos), candy wrappers, match sticks, cigarette packs and butts, at least one popcorn bag, paper soda straws, and peanut shells. Unique items included one Lincoln head penny, a Kodak film bag, a chewing gum quid, and a small fragment of light bulb glass.

### Dating

Unfortunately the slabbed, key locks on the three cells have not been retained. This type of lock has been made for a long time and is available today especially from Master. These were stained by earlier paintings and

looked as if they had been in use for some time. Otherwise they bore no sign of having been military.

The poor condition of the artifact made possibly dateable features less detectable. The SweetTarts bag in unit 14, cell 3 dates no earlier than the 1960s and cigarette filters post-date the War. My impression is that waxed cups became common after World War II. The same can be said for the filtered cigarette butts. On the other side, although paper straws may still be available, they are unusual and the absence of plastic straws from the cells suggests an early date. Certainly, closer inspection of the assemblage will reveal more and better diagnostics.

A number of items were found which might date to the Navy period. These are in two groups. The first is that from behind the cell 1 shelf. This date is based not on anything concrete but because of the circumstances that would lead to the deposit of artifacts in the gap. The second group is the largely food items found on the overhead frames or in the air vents, and the "caulk" in cell 1.

Note that isolated items found earlier but not necessarily associated with cells 1 through 3 have been added to this collection for convenience but are not discussed here.

### Other Considerations

The paint in cell 3 was discolored in places. The discoloration was such as to suggest heat from burning although there were no ashes or other evidences of fire.

### Findings

Trash was abundant in front of the cell doors, possibly resulting from visitors pushing things through the doors. Interest in the darkened cells would also explain the carbon build-up on the inside faces of the doors, extending vertically from the individual holes. Visitors might have thrust lit matches through the holes to better see the unlit interiors, the flames leaving carbon deposits on the inside of the doors. When the matches burned down or went out, they were dropped onto the deck below. Perhaps in the case of one cell, the accumulation of trash was enough to have started a small fire, heating the paint either there or in an adjoining cell enough to discolor it.

It is expected that if this collection were examined in more detail the floor deposits would be shown to be post-Navy. There is nothing currently in

## Brig-Carpenters' Shop furnishings documentation

Previously Locked Cells 1 through 3

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the artifact assemblage to seriously contest the suggestion that the material found on the decks dates approximately to the three decades following the opening of the ship to the public (1948). Probably the bulk is from the 1960s and 1970s, or even the early 1980s. However, there is no evidence that the paper from behind the cell 1 shelf, dried fruit, and caulk does not date to the Navy period.

### Significance

For the most part, this collection suggests more about earlier park operation than about its Navy history. However, the presence of unusual artifact collection points suggests the need for a high level of diligent documentation as new spaces are opened or restored. The dried fruit, also found in other cells is not inherently dateable. In this regard it is part of a continuing problem that may be better answered as more examples are found.

## Introduction

The second stage of Brig furnishings documentation was conducted 15 through 17 September 1994. It focused on a small sealed chamber located above the aft half of cell 4, separated from it by an air trunk. The air trunk extends fore-aft through cell 4, and turns sharply vertical immediately aft of the door to cell 4, rising to an air vent located on the Main Deck. On 3rd Deck this vent is currently accessible through large rust holes located in the overhead of cell 4, and in a limited way through gaps in its seams in the brig passageway.

By all appearances, after the air trunk was installed through the upper part of cell 4, an unused space remained between the top of the air trunk and what had been the earlier overhead of cell 4. (The reader is referred to the drawings in the section titled "Additional Brig Findings" for drawings that might be useful here.) This approximately ten-inch high and 47-inch wide passage connected cells 3 and 5. Although at the level of the overhead in cells 3 and 5, it could not be allowed to remain open. Steel plates were welded over this passage to seal it, thereby creating what is here being called a "dead air space." Its floor measures approximately 117 cm. port to starboard and 120 cm. forward to aft.

The aft and forward ends of cell 4 are the aft-most and center-cell overhead frame respectively. Each is fashioned from two pieces of angle steel, riveted together, the open channel in both cases pointing inward.

At some time in the past a large-diameter electric cable was installed crossing this space from port to starboard. At an even more recent time, this electric cable was withdrawn, and the holes through which it passed left open. These approximately 2.75-inch diameter holes proved important both for the introduction of debris into the space and for its eventual discovery.

Investigative access to the dead air space was provided by openings cut through the port and starboard plates. The opening from cell 5 (the inboard cell) was 104 cm. long and 16.3 cm. high. The opening from cell 3 was 60.3 cm. long and 14.7 cm. high.

## Provenience Control

The positions of artifacts were recorded during collection by use of a coordinate grid system imposed over the floor of this space. Artifacts, collected both individually and in groups, were assigned artifact or "lot" numbers at the time of collection. Individual items received a single

measure at their center of mass. Artifacts with some linearity (cigarette packages and unlit cigarettes, for example) had measurements made to each end. Larger items (the magazine and sock, for example) had enough measurements taken to give some sense of orientation as well as location. Groups of artifacts were gathered in collection areas defined by the coordinates of their corners.

The forward-port corner of the dead air space was used as the origin on the location grid, with starboard (toward the midline of the ship) and aft (toward the brig passageway and the back of the ship) distances as positive numbers. Metric measurements were used for convenience in spite of their general inappropriateness, and so are reported here in that format (centimeters, abbreviated "cm"). Because of difficulties in physically carrying measurements across the space, the collection groups which extended 10 cm. out from the starboard side of the space (lots 130 through 137) and two cigarette butts (lots 141 and 142) use a forward-starboard corner origin. Measurements for these are to the port and aft.

Aft measurements were made from the least rusted face of the forward end of the dead space. In the case of the forward frame, the face of the upper member was least rusted and was used throughout. Neither the port nor starboard blanking plates were rusted.

Measurements were made as close to the appropriate corner as possible. However, because of the difficulty in drawing accurate and consistent right angles off of the tape the most convenient forward and port face was often used.

The assumption that each reference surface was flat and straight and that corners are at perfect ninety-degree angles introduced possible errors for which there was no control. Because of small observable irregularities in this space and because of the difficulties in making measurements, artifact positions for the most part were rounded off to the nearest half centimeter.

#### Factors affecting the distribution of artifacts

A number of factors had an impact on the distribution of artifacts recovered from this dead space. The access panels into it were cut by first grinding down the thickness of the existing plate steel, and then by cutting through the remaining thickness with a reciprocating saw. Although the blades used extended less than 3 cm. into the space, it doubtless struck items which were within that distance of the walls.

The deck plate in the dead air space is not flat, but rather rises noticeably toward its center. Whether this is an original characteristic or created over the years by rust, stress, etc. is not known. Nevertheless it may have aggravated the tendency of artifacts to be concentrated along the port and starboard sides.

The openings through which the artifact were introduced include circular holes 95 to 96 inches above the decks in the cells previously occupied by large diameter electric lines, and irregularities in the covering plate which allowed entry around its sides. The size, shape, and access to these openings limited the items which could be introduced. They also limited the distribution of the items, concentrating them especially around the two openings from cell 3.

The bottom plate for this space is not sealed. A very small gap is present, enough so that very thin items such as match sticks, may either remain trapped therein, or fallen completely through, possibly into the air trunk below.

Finally, the very process of collection, taping distances, and reaching across smaller items to reach larger, caused some disturbance, although effort was made to keep this to a minimum.

### Vertical Stratigraphy

There was not enough build-up to create good stratigraphy. Nevertheless there was some verticality to the positions of the items; that is, some items rested atop others. An attempt was made to preserve vertical relationships by recording when an item was directly on another. There is also a record of vertical position in the order in which items were removed. Clusters of items were approached as though in a game of "pick-up-sticks"; that is, where question existed as to which item was on top, each item was wiggled to see what else moved, and then the item that moved other items the least was collected.

### Collection Strategy

All artifacts in this space were collected using two strategies. The more common was collection of individual items. The larger artifacts, primarily printed matter, cigarette packages, match books, and food wrappers, were issued individual artifact (or "lot") numbers. Other items were collected individually only if they had some size, such as whole cigarettes or pieces of

paper. Chewing gum quids were collected individually if they were observed prior to collection.

The second strategy was of area collections, used primarily for the many smaller items, such as match sticks, chewing gum wrappers, and bits of paper. These were primarily located along the port and starboard edges of the space. The size of the units varied from 10 to 20 cm. square depending on the observed artifact density in the area.

Because the arm of the forward frame extended aft into this space, artifacts were present both on top of this arm as well as in the 7 cm. deep space below it. More artifacts were present below than on top of this arm. Some may have originated in the secondary (and as yet unexplored) dead air space immediately forward of this one although nothing was observed to support one idea over the other.

Not all of the space was collected. Most of it was clearly observable and contained nothing. Along the starboard side, 10 cm. square units were collected from forward to aft and stopped only after collecting the first unit which had no artifacts. The entire length of the port side was collected. Units not directly visible were collected by touch and with the assistance of a pocket mirror.

### Artifacts

A total of 146 lot numbers were issued. Two of these are "no artifact" lots. Most lot numbers are issued to individual items, although many were also issued to collection areas the contents of which have not been counted at this time. Some may have held as many as twenty items. Also, some lot numbers thought to have been issued to individual artifacts on closer inspection to include more than one item. In the case of lot 101 issued to the detective magazine mentioned below, what was collected only as a single item on closer examination was found to also include five cigarette butts, two wooden match sticks, and a number of scraps of paper, some with printing. When the entire collection is examined in more detail the number of artifacts should easily exceed two hundred.

### Findings

It is possible that this space received deposit in the post-Navy period (after 1948). More study of the collection will be needed to evaluate this possibility. However, the collection as a whole is strongly Navy period in

character. For example, several green Lucky Strike packages no longer made after 1942 were found. Although some quantity may have continued to be available after this date, their reduced freshness and effective non-availability make it unlikely that they were much in use.

In addition, many of the tobacco tax stamps still on the cigarette packs are marked for military sale outside of this country. One even has a "Sea Stores" stamp. While it is possible that these came aboard after 1948, it is unlikely. Some dated items were found, primarily paper. The largest and oldest is the January 1933 (Volume 9, number 54) issue of "Startling Detective Adventures" magazine (see lots 101 and 122).

A second printed item (lot 24) is a ship's newspaper dating to 17 November 1944. A third such item (lot 35) is a page from a magazine with an attractive girl in a 1944 Chesterfield cigarette ad. Other items, like matchbooks printed with Latin American, War Bond, or Navy motifs, are also abundant. Additional research (into candy bar wrappers, for example) would likely certify the pre-1948 dating of the bulk of this assemblage.

In addition to the dating of certain diagnostic items, the general nature of the artifacts is in keeping with contraband. Everything could have been carried in secretly. In addition, everything is more-or-less personal in its use. There are for example, no tools, equipment, spare parts, or other paraphernalia characteristically found in much of the rest of the ship. Finally, everything is (or has been made) small enough have been introduced through one of the known openings, implying that the deposit was not made simply at the time the air trunk was installed but after the installation when the Brig was once again active. Indeed, the crumpling and folding of some items is one of the collection's most characteristic features. This can only be tied to the compression needed for insertion into the space.

In summary, much of the evidence is (and will likely remain) circumstantial about the origins of this material. However, the burden of proof lies heavily on any possible contention that, given the dating of known items, inaccessibility, and the general nature of the collection, this represents Navy Brig contraband.

### Significance

There is little comfort in the Brig. The absence of furniture and light and the denial of reading material combined with a customary bread and

water sentence, make it natural for inmates to try to circumvent Brig security and to make their stays more pleasant.

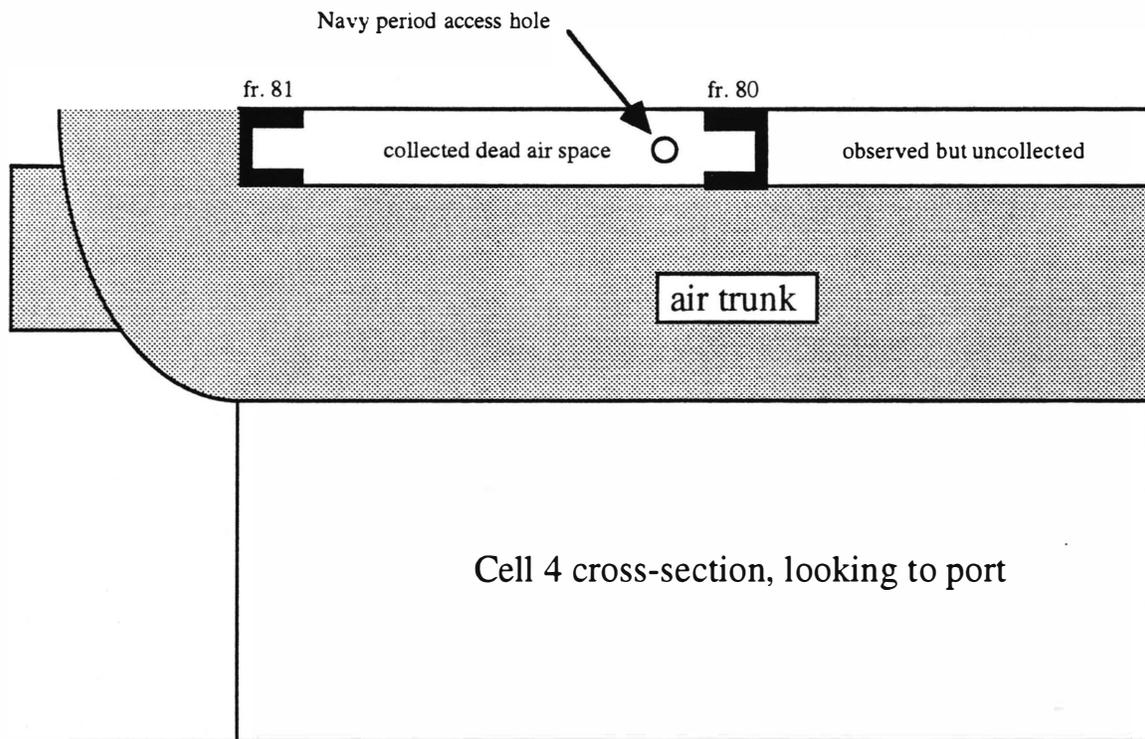
The inaccessibility of the cells and the Brig combined with the inaccessibility of the three known openings into the dead space, make gratuitous or casual deposit very unlikely. That the artifacts date largely (if not entirely) to the Navy period further secures the Navy Brig association.

This is one of the largest single collections of original *personal* items recovered from the ship. Certainly, many items have been found that reflect on the business of a battleship, but less so of personal items. These are also less certain in their provenance and either have no coherence as a collection or are much smaller in size. It helps us to better understand the preferences and consumables on the ship.

The collection is important not only for its association with the Battleship, but also with a space of such unique function. This is a space for which we otherwise have virtually no material culture assemblage, and little with which to advance either our understanding of what happened there or our interpretation of the space.

### Introduction

This stage of Brig furnishings documentation includes two parts: first, the large air trunk that passes above the Brig passageway and over cell 4 was initially examined. In addition, a second "dead air space" was discovered. The following discussion reviews these and notes how both are pertinent to the immediate restoration of the Brig. In neither case were artifacts collected. The aft end of the air trunk was explored more fully in an October 1994 visit, and is discussed in more detail below. However, introduction to the geography of the air trunk is included here.



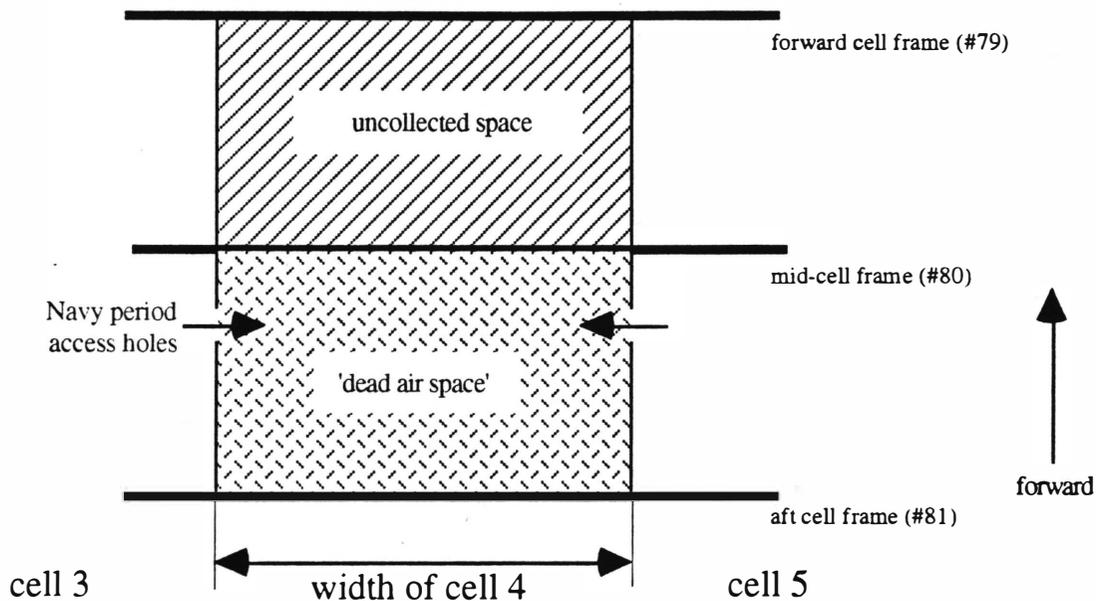
#### 1. a second "dead air space"

In September 1994, artifacts were collected from a small, sealed chamber referred to in this report as the "dead air space." It was first detected during the examination of cells 1 through 3 reported elsewhere. The artifacts from this small chamber were collected late in that same month.

The forward and aft borders of this space are two overhead frames that pass over all the cells. The aft frame (number 81) is above the front bulkhead

and the doorways of the cells. The base of the dead air space is believed to be the top of the air vent that lies below it.

Following installation of this air trunk through the upper part of cell 4 steel plates were welded in place to seal the resulting small channel which connected cells 3 and 5. Thus this space is bounded on its port and starboard sides by a steel plate, the holes through which allowed the dead air space to be discovered.



Cell 4, viewed from above

While collecting the artifacts in the "dead air space" a gap was noticed below the top of the flooring within the space, and the bottom of the mid-cell frame (number 80) which forms the forward border to this space. The accompanying diagram shows the relationship of these. Note that cell 5 is different from the other four cells by having approximately half the floor space of the others. Because of the configuration of cell 5, truncated as it is by a locker between frames 79 and 80, it can be assumed that the starboard border of this newly discovered space is shared with the locker. At its forward end is the master-at-arms berthing area.

Enough space exists between the flooring and the bottom of the mid-cell frame so that artifacts had become wedged between them. These were

removed and placed into the "stage 2: dead air space" assemblage using the horizontal location control system. The size of this gap also allowed enough light to pass into the area forward of this space to determine that in form it is very similar to that just aft. That is, its aft border is the mid-cell frame, its port border is a plate welded over in place in cell 3, and its flooring consists of the same sheet iron. Artifacts are visible, most notably a crushed cigarette pack. It quickly became apparent that the mid-cell overhead frame had divided the space between the top of the air duct and the original overhead of cell 3 into two parts. Thus the aft half of this space has already been collected. Another similar area was just forward of the frame.

The discovery raises two issues. The first is how the artifacts were introduced into this space. The most obvious explanation is that artifacts were pushed or moved forward.

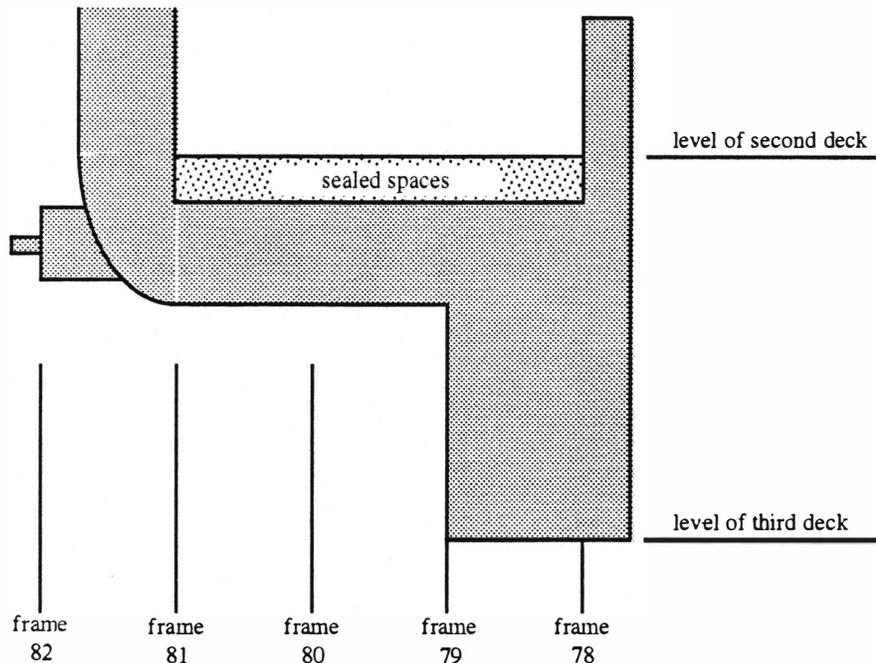
After examining cell 3 more carefully, a small gap was found between the overhead and the top of the bulkhead sealing plate. This small crack is located just behind a vertical spar at the midline of the cell. Although high above the deck, it is not only big enough to receive artifacts, but it also allowed examination of the interior of the space with a hand mirror. The light in the space was poor and even with the mirror only a small area was visible, but still a couple of pieces of paper could be seen in addition to the cigarette pack mentioned above. It was also apparent that the interior of this space is heavily rusted, just as is the dead air space already collected.

Nothing could be seen that would allow dating of the enclosed assemblage. However, there was nothing seen to differentiate it from the assemblage already collected, and it is expected that the two will be comparable in character and dating. Not enough could be seen to be able to anticipate artifact density.

## 2. air trunk

A large air trunk separates the "dead air spaces" from cell 4. The purpose of this trunk is to conduct air from the Main Deck down to blowers which then push it throughout 3rd Deck. The air inlet vent is on the port side of Main Deck between frames 81 and 82. At present it is blanked off at its intake. However, during World War II the vent was covered with a mushroom-shaped cap to keep out the weather (see 1994.46.30).

The air trunk has two large rust holes inside cell 4. The larger of these was made big enough for complete entry. The vent is also open in the Brig passageway where it turns forward to pass through the top half of cell 4 on its way to the blower room. The corner seams of this curve have come apart sometime in the past and are rusted. According to Margarita Marders (Acting Curator of the ship interviewed in March 1995), the overhead of cell 4 (that is, the floor of the air trunk) collapsed of its own weight during the period that Robert Browning worked at the ship in the late 1980s. This is probably the origin of the access hole. However, the fate of the material which came down with it and the material that may have remained in the trunk but close to the hole, is unknown.



schematic air trunk, looking to port

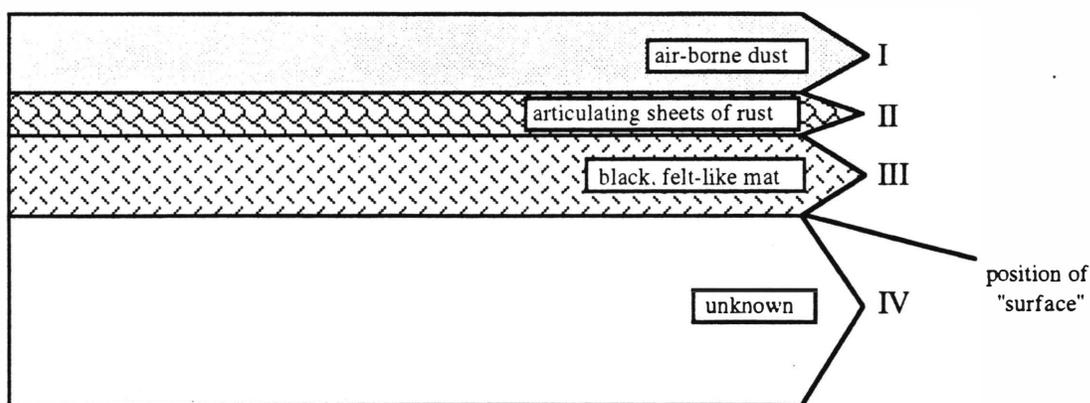
This initial investigation was done to determine the effort that would be necessary to restore the interior of this air trunk. Artifacts and a large amount of deposit could be seen close to the access hole. The floor of the air duct extended about eight feet aft at which point its floor disappeared. A vertical bulkhead was present about five feet further forward from this point. This situation in some ways mirrored what was already known about the

dead air space, discussed below. That is that it might contain Navy-period artifacts.

A board was laid across the loose deposits to prevent their being disturbed. I crawled along the board to the point where the air trunk floor drops six feet in elevation. The accompanying cross-sectional sketch shows the configuration of the air trunk based on this initial and several follow-up visits.

The top of the small vertical air passage could not be seen. However, it is probably sealed at its upper end, located on 2nd Deck in the middle of casemate 10.

The small "room" at the forward end of the air trunk is an enlargement of the trunk in the Blower Room between frames 76 and 78. The entrance to this Room is between that to the Master-at-Arms Berth and the forward end of what is here being called the Brig-Carpenters' Shop passageway. The deck in this chamber is covered with what appears to be a loose layer of fine dust. A shoe and other unidentified artifacts can be seen under the dust. The deposit is presently pristine. However, the chamber can be accessed both through a cover plate on its forward face, through the circular blower opening, and through the trunk itself.



schematic cross-section of forward air trunk deposits

The deposit lying in the air trunk at the edge of this chamber was tested to see what if any artifacts and layering was present. This was done by brushing back the light dusty deposits (see the photographs accompanying

this report). The sketch below shows in schematic form its layering. This examination stopped at a piece of paper lying on the surface of the layer(s) labeled "IV." No writing or printing could be seen although the paper lay flat over what had at one time been a "living surface" (in the archaeological sense). It was far too fragile to remove. No artifacts were collected.

Layer II consisted of a blanket of rust scale that fell from the sides of the air trunk and with time broke in place. These smaller pieces are still articulated.

Layer III is particularly notable because it occurs elsewhere in the air trunk. It includes hair, thread, and small bits of string. It has a tensile coherence and is probably a creation of the continuous forced air flow that once moved through the air trunk, laying down and then working its lighter constituents. It is consistently dark gray to black in color.

One disturbing aspect of these deposits generally is their mounded appearance. This may be natural. However, it may also be due to redeposit from further aft, where there is little or no deposit present (e.g. Collection Area B). If so, it may have happened some time ago, based on the light airborne dust (level I) and relatively intact rust (level II) currently present. Note however that we presently have little on which to base predictions of the speed of deposition, which may be quite variable even within a single air trunk.

Another issue of concern is the presence of artifacts. Even a cursory viewing revealed the obscure shapes in the dust, only one of which, a shoe, could be identified.

Following this initial examination, a more thorough documentation was made of the aft end of the air trunk where planned construction would harm the deposits present. It was done to mitigate the disturbances that would result from passageway restoration. This effort is discussed in the section of this report titled "cell 4 air trunk".

### Findings

Little can be said about the second closed chamber above the air trunk in the upper part of cell 4. Artifacts are present there and they almost certainly date before 1948 when the ship was made into a monument.

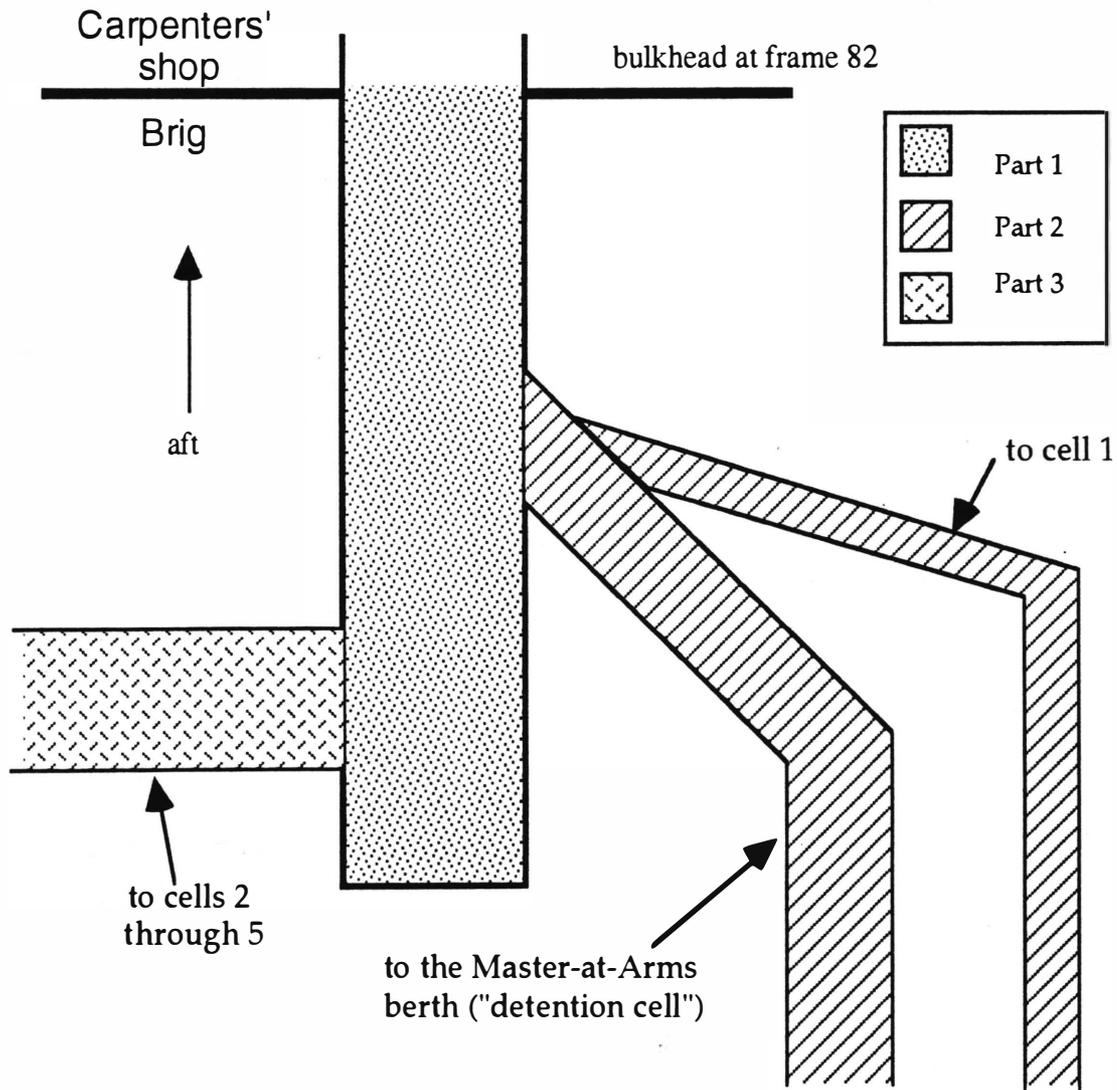
The air trunk has implications for many other areas of the ship, and much of what can be said here will be included in the discussion of the findings at its aft end. However, it is clear that a stratified deposit is present. Artifacts are contained in these deposits and may provide insight into the ship's history. These items also are expected to have interpretive potential, both in themselves and as examples for refurnishing. They are varied and include a shoe and a piece of paper. The paper is quite fragile and may be related to the paper items found at the aft end of the air trunk. These includes newspapers and official shipboard communications or forms.

Special note should be made of the presence of at least one informal opening into the port face of the air trunk from the master-at-arms berth. It was very common for the crew to cut holes in air passages so as to increase the local air movement (and their comfort). This one is rectangular and big enough to have allowed large items to be introduced. Whether or not this was done is not known. However, deposit associated with this hole is expected to be slight by comparison with that of the Brig. This is due to the lack of incentive on the part of the inhabitants of this compartment to dispose of trash and reading material furtively. However, this remains a consideration as appropriate examination of these deposits may help develop a predictive model for air passage disposal practices on the ship.

Introduction

Fresh air is brought down to the third deck of the ship by forced-air blowers which pull air through vents on the main deck. This air is then pushed through a system of sheet metal air ducts whereby it is carried to outlets scattered over this deck and that below.

The air distribution ducts inside of the Brig can be divided into three parts. The first of these (Part 1) is a single line, rectangular in cross-section, that carries air from a blower in the Carpenters' Shop (compartment C-102) into the Brig passageway. This section of duct crosses the aft Brig bulkhead (at frame 82) a few feet from the hull. (See the schematic drawing below.)



The second part of the Brig's ducting (Part 2) consists of a single arm which separates from the port side of Part 1 close to the frame 82 bulkhead. This single arm then splits. One branch goes into cell 1. The second branch passes through cell 1 and empties into the Master-at-Arms berth.

Part 3 of the Brig's air distribution ducting extends starboard from Part 1, and passes down the center of the Brig passageway. Four smaller lines split from it. Each of these ends in a small sheet metal bell which opens at a circular hole just above the door of each individual cell. With the exception of a damper in each bell, there are no obstacles between the movement of air and the cells.

When the Brig ventilation system was disturbed as a part of this restoration, a number of items enclosed inside it were exposed. These were found only in Parts 1 (the root of the system) and 3 (carrying air down the passageway to cells 2 through 5). Only Part 2 (to cell 1 and the Master-at-Arms berth) produced nothing. A section of vent extending eighty inches starboard from the rectangular trunk to the vent serving cells 3 through 5 was left in place and may yet contain artifacts.

There are a number of other points at which objects might have been introduced into this system. Mentioned above are the five openings at each of the individual cells. There are also informal openings made into the Carpenters' Shop side of the rectangular vent (that part in the Brig called here "Part 1"), and at the blower itself. Three of the former are close to the bulkhead separating the Brig from the Carpenters' Shop. One is in the portside sheet metal 39 inches from the bulkhead. The others are in the starboard face, 8 and 35 inches respectively, aft of the bulkhead. Finally, there are the joints in the sheet metal ventilators that might also have been loose enough to have allowed small items (such as matchsticks) to be introduced.

### Part 1: Description

This trunk air line is 8.5 inches square. It extends just over 17.6 inches into the Brig passageway, passing through the bulkhead at frame 82,  $17 \frac{5}{8}$  inches from the hull and 84 inches above the deck. Its end cap is held in place by screws and so could have been regularly cleaned out in the past. When removed for restoration a variety of items were found lying inside it. These

items were collected by Will Michels, restoration architect at the ship, in October of 1994.

### Part 1: Collection Methods

During the initial construction in the Brig, the cover to the rectangular vent was removed by Norman Snipe, one of the ship's staff, who made the initial artifact discovery. He immediately recognized the importance of his find and summoned Will Michels, the architect responsible for overseeing the restoration work. Michels removed the items, separating them according to both their distance from the open end of the vent, their relationship to the smaller cell 1 feeder, and (where possible) their vertical position.

There are three units of horizontal collection: from the vent opening to 1 foot in from that opening, from 1 to 2 feet from the opening, and from 2 to 3 feet from the opening. The cell 1 fork is between 2 and 3 feet from the opening. This was a location of additional deposit and so items directly in front of this opening were collected separately. Vertical control was very simple: those things laying on top, and those that are underneath.

He was unable to remove all of the artifacts that he knew to be present because of their distance from the opening. Some were beyond his reach and visible; others were inside of the smaller line of Part 2, and unreachable because of the angle at which he was forced to approach. A total of seven collection units were used.

### Part 1: Artifacts

The artifacts collected are briefly listed and described below:

#### 0 to 1 feet, top level

- 1 wood pencil, red brown color although very dirty; about 2 inches long; end obviously sharpened with a knife; hexagonal cross-section; may have some silver lettering; no eraser or ferrule but may have had such once; point broken
- 9 wooden matches, no heads, rectangular cross-section, only 1 has obvious burning, one is a shaft only
- 8 wooden matches, no heads, circular or sub-rounded cross-section (defined here as circular with one or more flats), 4 with obvious burning
- 1 wooden match stick, sub-rounded cross-section

- 3 apparent wood matches but thicker and longer than the others; 1 has obvious burning; all are subrounded in cross-section
- 1 unidentified fragment of paper
- 1 paper tag about 3.5 by 1.75 inches in size, circular hole reinforcement; no wire or string attachment; unused
- 1 corner of a page from a book, magazine, or newspaper; some printing visible, apparently an ad or review in English, possibly from a British publication because one of the publications is about British history and a price of "9d" and possibly also "20c" are visible; other side is either printed in or about Spanish

0 to 1 feet, bottom level

- 1 piece of felt/ fuzz consisting largely of fibers
- 1 unidentified cardboard or fiberboard fragment
- 1 unidentified paper, perhaps from a book, magazine, or newspaper; a corner fragment with no printing
- 1 fragment of unidentified paper such as above but with print on it
- 1 sliver of cut rubber gasket
- 11 wooden matches, no heads, rectangular cross-section, only two of which have obvious burning
- 4 wooden matches, no heads, circular or sub-rounded cross-section, 3 with obvious burning

1 to 2 feet, top level

- 1 used half bar of soap, about 1 inch square, whitish in color, no aroma or markings, cracked and crumbly

1 to 2 feet, bottom level

- 3 wood chips
- 1 paper fragment, unidentified but reminiscent of Kraft paper
- 6 paper fragments, unidentified although 3 are similar to cigarette papers and from their size may be the remains of butts
- 5 newspaper fragments including one with advertisements and 2 with Sunday color comics (1 unidentified and 1 of Popeye)
- 4 wooden matches, no heads, rectangular cross-section, all have obvious burning
- 3 wooden matches, no heads, circular or sub-rounded cross-section, 2 with obvious burning

1 to 2 feet, immediately in front of the cell 1 branch

- 7 wooden matches, no heads, rectangular cross-section, 3 have obvious burning, 1 is only the head

- 4 wooden matches, no heads, circular or sub-rounded cross-section, all with obvious burning
- 1 corner piece of paper (probably a letter) rolled into a tight cylinder with pencil writing on the inner side as follows:

.....  
... the  
... of days so we  
... ve some time.  
... a ship crosses  
... or they give  
... ly.

2 to 3 feet, top level

- 1 crumpled red tissue paper, rectangular in shape, printed with a purple-blue logo including a cross within a circle and the following text:

MUTUAL ORANGE DISTRIBUTORS /  
CALIFORNIA  
PURE GOLD  
REGISTERED  
U.S. PAT. OFF.  
PRODUCT OF  
UNITED STATES OF AMERICA

No effort has been made to identify this company.

2 to 3 feet, bottom level

- 4 wooden matches, no heads, rectangular cross-section, 1 has obvious burning
- 3 unidentified paper fragments; 1 may be remains of a cigarette butt
- 1 fragment of a Camel cigarette pack
- 1 red plastic opener for outer seal on cigarette or other commercial product

Certainly the most noteworthy items are the bar of soap and the orange wrapper. At present there is no information about the history or dating of these items, although questions about why a bar of soap might be present are appropriate.

Looking to the more mundane items, it is apparent that their distribution is not uniform. In the case of the match sticks for example, over half are bunched near the end of the rectangular vent (see table below).

<u>collection</u> <u>unit</u>	<u>cross-section</u>		<u>total</u>
	<u>circular</u>	<u>rectangular</u>	
0 to 1 feet	13	20	33
1 to 2 feet	7	11	18
2 to 3 feet	<u>0</u>	<u>4</u>	<u>4</u>
total	20	35	55

Part 2: Description

This consists of a short length of 5-inch diameter pipe which splits from the rectangular air trunk (Part 1), less than an inch forward of the frame 82 bulkhead. A short distance along the 5-inch diameter line, a ca. 2-inch line separates. This smaller line provides air to cell 1 through a bulkhead bell such as is also present in cells 2 through 5.

The 5-inch line continues straight through the aft and forward bulkheads of cell 1, ending well inside of the Master-at-Arms berth. Unlike the lines to the individual cells, there is no damper in the MAA berth portion of the larger Part 2 vent.

Part 2: Artifacts

No artifacts were collected from this area. However, there is every reason to believe that items are present in both arms.

Part 3: Description

This consists of approximately 60 inches of 4  $\frac{7}{8}$ -inch diameter sheet metal pipe which extends athwartships down the center of the Brig passageway. It curves down so as to clear the ventilation trunk at cell 4. A ca. 2-inch sheet metal pipe angles away from this line as it passes in front of cells 2 through 5. Each of these small lines connects to a sheet metal bell mated with a hole through the bulkhead just each of the cell doors. Each bell has its own small damper. Only that portion of the passageway line from cell 3 to cell 5 was collected. The provenience of this collection is tenuous. Its association with this vent line is based on the familiarity of Will Michels with the collected material. This situation is explained in more detail below and in the discussion of artifacts recovered from the Brig - Carpenters' Shop backdirt.

### Part 3: Collection Methods

This material was collected during the week following the documentation of the air trunk over cell 4. Because it blocked access to the air trunk coming down from the main deck to the Brig passageway, a single, approximately 60-inch span of the 4  $\frac{7}{8}$ -inch diameter sheet metal pipe was removed by the workmen and stood on end in a corner of cell 5. With time, gravity pulled the contents of the pipe out onto the deck where they were observed and collected by Will Michels. He then examined and arranged the items against a bulkhead.

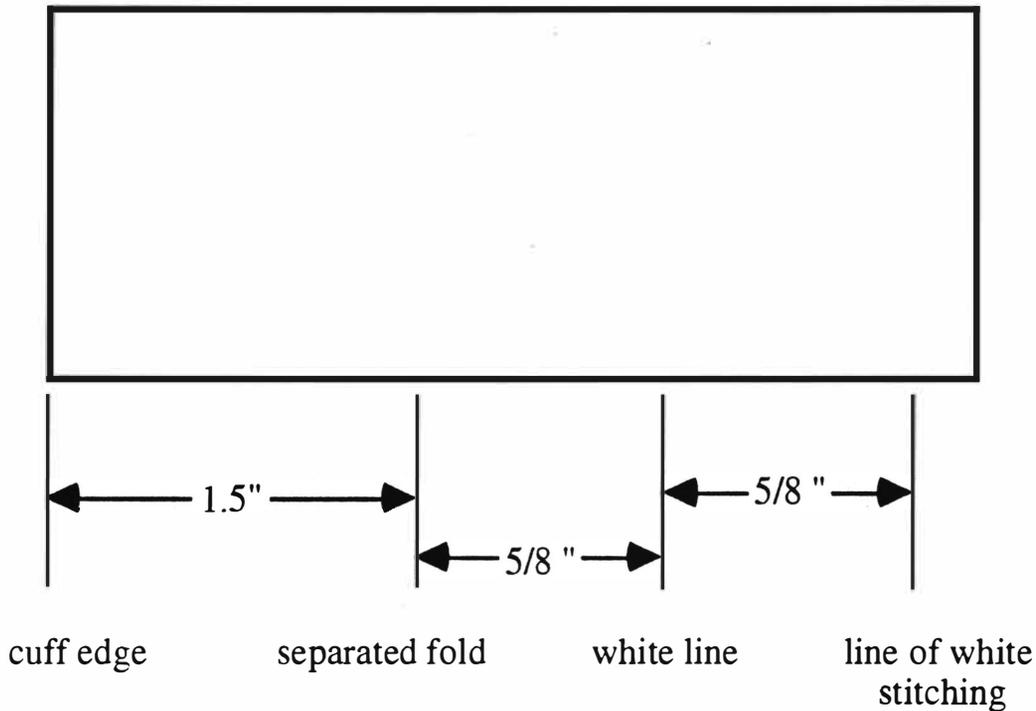
The following weekend, volunteers working in the Brig and seemingly thinking that this was trash, disposed of the material by throwing it into one or more cardboard boxes with sweepings, chipped paint, and other waste. When Will Michels returned on Monday and found what had happened, he visited each of the likely trash boxes to recover those items or fragment thereof which he could recognize as having come from the pipe. He was unable to regather everything that had been in the original collection, and may have also included some items that were not in the original group. Because of the way in which these items were gathered, their provenience must remain suspect. Thus the material described here is different from that in the spearate backdirt discussion only by its being more likely to have come from the bent pipe as a result of identification by Michels.

### Part 3: Artifacts

The largest single item found in the vent in front of cells 2 through 5, is a rag torn from a denim trouser leg. The rag measures about 9 inches by 15 inches. It has been cut from the lower leg, beginning at the cuff and includes both inseam and the outer, length seam. These are about 11 inches apart. One of these seams has been pulled apart while the other side has been cut through. Unlike modern civilian bluejeans which are stitched together with yellow, orange, or gold thread, the thread here is white. Modern navy issue denim trousers are held together with black thread. The significance of this fact is not known.

The original cuff is worn midway between the two seams. Three lines parallel the cuff (see the schematic drawing below). The first line is a sharp crease folded into the cloth. The cloth has separated over about half of the

crease length. The fold which produced this crease is toward the outside face of the pant leg.



The second is a white line created by wear a short distance above the crease. Such is commonly the result of a sharp fold exposing the outer face of the fabric to increased wear.

The final line is a remnant of white machine stitching. This hemming seam has been ripped out, leaving a line of white thread behind. The cloth has separated over about half of the width of the rag along what would have been the new, lower hem line.

The most reasonable explanation for this combination of features involves a two-stage attempt at adjusting the length of the trouser leg. The leg length was too long for its wearer and was initially rolled up inside the pant leg. This short-term expedient created the white wear, but did not prevent the cuff from coming down allowing the original hem to wear and begin to fray. When this solution proved unsatisfactory, the wearer had the lower 1.5 inches folded up on the outside of the leg, and machine-stitched in place. With time the new lower edge of the leg took on a deep crease that, combined with some wear, weakened and eventually caused to separate the fabric along that line.

The rag is spotted with both red and white paint. The inside face of the cloth contains only a small amount of red. The outside face, however, includes splotches and spots. Much of the red is of a deep hue similar to deck red. A small portion however, is much brighter and in this regard is similar to the "striping red" used to indicate the use of certain lines aboard ship. A small drip of this paint was found near the brass plaque located on the shelf inside the Brig passageway against the hull. Similar red paint is present on the deck inside of the Carpenters' Shop blower located at frame 87 (Blower 2).

A number of other noteworthy items were found. These include the following:

1. a candy wrapper, "SmoothSailin" a walnut divinity nougat and bittersweet chocolate bar weighing  $1 \frac{1}{16}$  oz., manufactured by the Hollywood Candy Company of Centralia, Illinois. No company by this name exists in Centralia as of this writing, and the label has neither zip code nor bar code.
2. an unused form printed on two sides. There is no way to determine from the fragments how many forms there were originally. However, Michels remembers it as a single legal size sheet. It was mimeographed and customized to the ship. Although brittle and very cracked it was in one piece, included many blank lines separated into three columns, and had to do with parts for the machine shop. Similar fragments are discussed in the "backdirt" portion of this report. One fragment has the lettering "JOB NO." on it.
3. a small piece of paper with printing on one side. This appears to be an official document of unidentified use. It appears to have been made on a press and not on a mimeograph machine. Although the function of the original document cannot be determined, the words on it include the following names and ranks/rates:

Wiltsie	Lt.
Kimbrough	Lt(jg)
(?)ion Thomas	
Mackey, B. M.	
C. M(?)	Corporal
(P)hillips	BM1c

A quick check of the ship's muster rolls shows that between late 1942 and early 1946, no Phillips (a BM1c) and no Mackey, B.M. were a part of the ship's crew. Similarly, no officers named Wiltsie or Kimbrough could be found in the officers' rosters for the years 1933 through 1945.

4. clear plastic wrapper fragment, probably from a pack of cigarettes
5. wooden matches

### Parts 1 and 3: Findings

It is difficult to say anything on a grand scale about the Brig passageway air vent. Part 2 of the system was uncollected; Part 3 was only partially collected, and that was following serious damage to the provenance and completeness of the collection. However, in general the three parts of this line are closely interconnected, and as might be expected, the assemblages obtained from 1 and 3 are similar in some ways and different in others. In simple numbers, most of the recovered artifacts deal with smoking. These include matches, cigarette butts (the paper portion only), and cigarette packs. Second in frequency is reading material possibly including books, a letter, magazines, and newspapers. Food (a paper wrap for a single orange and two candy bars) is represented in both albeit not in the same frequency or proportion, while no chewing gum, is present at all. This is quite different from the cache of contraband found above cell 4 where comestibles (including chewing gum) were more common than reading materials. Here, reading material (including forms and such) is more common than food.

Certain items by their mass could not have been carried far by the movement of air in the vents. These include the bar of soap and the pencil. The position of the rag in front of cells 3 through 5 and so far from large openings, is a puzzle. Although its total weight seems high, its shape may have allowed it to be carried for a distance. However, the best explanation for its presence is deliberate placement to staunch the flow of air to one or more of the cells. The motivation to do this could have been either to make one area less pleasant by restricting air to that place, or alternately, to make another area more comfortable by increasing backpressure and subsequent air flow into it.

The SmoothSailin candy bar found in this area is thus far unique for the ship. Hopefully, something more can be found about its history. The wooden matchsticks deserve more attention also. These have been found here and elsewhere with both round and rectangular cross-sections. The latter is within the experience of the author, but not the former. This characteristic may have some dating or other potential. Finally, the orange

wrapper is interesting in light of the whole orange and orange peels found in the cells. Something more may also be available on the Mutual Orange Distributors of California.

### Parts 1 and 3: Summary

The impression in Part 3 is of a system that for the most part (ignoring the issue of the rag) was sealed. Only the small (matchsticks) and light fraction of artifacts came to be deposited here. Part 1 was much more open to deposit and so received heavy objects and a greater number of items. These "heavy fraction" items (such as the pencil and the bar of soap) are unlikely to have been moved far from their point of introduction. Although both 1 and 3 contain evidence of smoking (which is not unexpected), both contain matchsticks, which are also items not likely moved large distances from their point(s) of introduction. The obvious difference between these "heavy fraction" items is their size. It appears that smaller items (like the slender matchstick) might be ubiquitous because they are small enough to be introduced through very small openings. The location of larger items will be tied to the presence of larger holes, three of which are just on the other side of the frame 82 bulkhead from Part 1, inside the Brig.

This area includes one end of a ventilation system that begins at the main deck vent above the Brig passageway, and was investigated a short distance away (cell 4) inside of the Brig. Within this area are the elements for beginning to investigate the presence of artifacts inside of the ventilation lines. Important variables include the introduction of items into the vent itself and along the route of the system, and the grading of items according to their mass and air resistance (as they are pulled along by the wind inside). The presence of certain items (a bar of soap, a pencil, and matchsticks) here confirm the deposit of artifacts along the route of the vent lines, and not just at major openings. Further, it confirms the variety of paper reading materials and adds something to the nature (the orange wrapper) and variety (new candy bar brands, if these prove to date to the Navy period) of foods which made their way aboard.

It is also apparent that small factors can be important in segregating or eliminating deposit. A large amount of contraband debris was found associated with cells 3 and 5. These same cells are also closely associated with

part 3 of this ventilation system via the vent outlets above their respective doors. However, that contraband did not make it the short distance into the vent, inhibited perhaps by the movement of air in the opposite direction and the presence of a damper in the small vent line connecting the cell to the larger trunk. Thus physical distance cannot be the most important variable, and a thorough understanding of the workings of the ventilation system is necessary to be able to interpret and understand differentials in the ventilation system's artifact distribution pattern.

Because of the way that the air moves, it is likely that most of this material came from the Carpenters' Shop. More specifically, the informal openings present in the last few feet of vent before it passes from the Carpenters' Shop to the Brig are likely candidates. These openings are not only convenient but large enough for the introduction of all of these items.

A significant factor in this area is the presence noted by Michels as an extensive layer but represented in the collection by only a small sample, is black felt-like material. A similar layer was found on other air vents, especially that above cell 4. This dusty accumulation of hair and fibers probably results from the constant air movement over many years. Its presence here reinforces the suggestion that it is ubiquitous on the ship. This material has not been well studied for this report but deserves more careful examination. It has great potential for yielding information on a variety of topics not readily addressed in any other way.

Certain larger issues reflect on the ship as a whole. The nature of the artifacts is largely in keeping with the refuse from the "dead air space" discussed elsewhere. What motivates the individual first users and creators of these deposits and what conditions explain the pattern of the assemblage? This may or may not be different from other areas of the ship, such as those never treated as berths, or where compartment use and restrictions on attendant activity differ. (For example, in the turrets, smoking debris should be virtually non-existent.) Such questions might be answered through additional research.

Another question is what effect air movement has on the positions and preservation of the artifacts. It would be expected that the velocity of the air inside of these smaller vents would be higher than in those such as the air trunk over cell 4. Did this affect artifact position by differential sorting, or

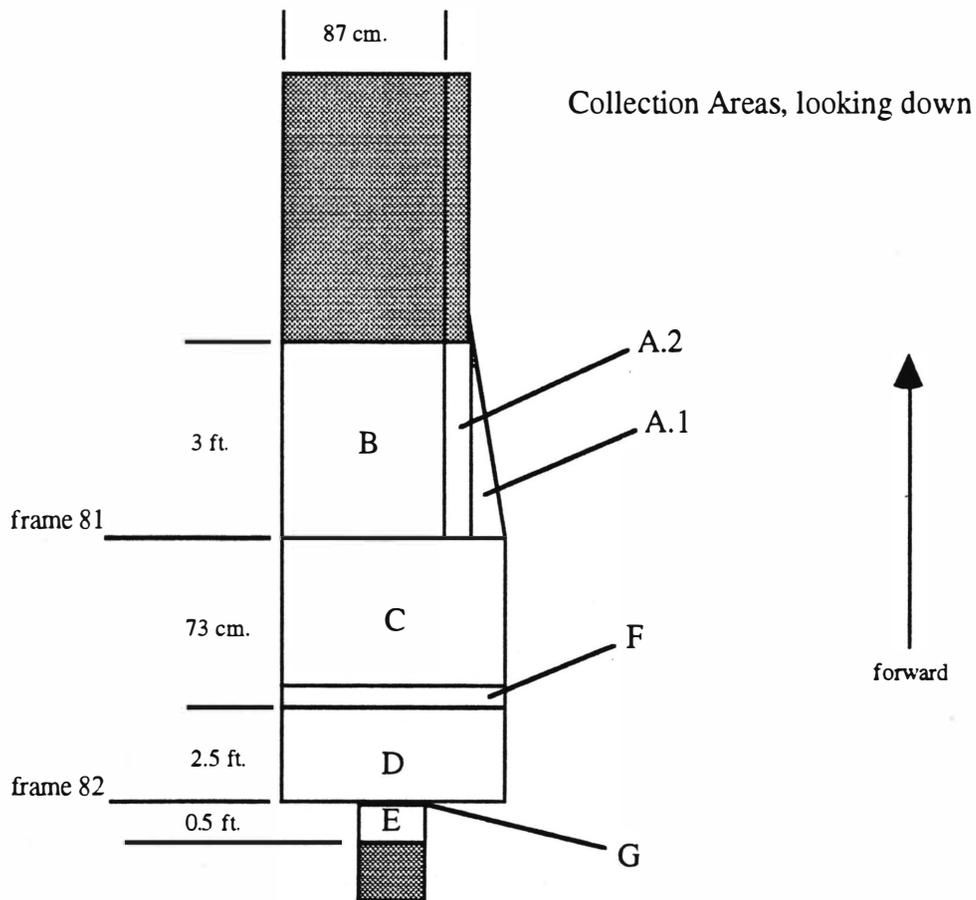
artifact preservation by destroying more delicate items? These taphonomic questions may seem esoteric but could bear significantly on understanding the condition and distribution of the items found. This is the kind of research awaiting further controlled study of the ship's ventilation system.

Not everything has been collected. Major lengths of the cylindrical line in the Brig and the rectangular line in the Carpenters' Shop, remain unexamined. In light of these findings, all of these lines regardless of their distance from the main deck should be expected to contain artifacts. That is, artifacts will be present not only in the higher order main trunks, but also in the lower order lines toward the bottom of the air distribution system.

Introduction

The historic potential of this space was demonstrated during an earlier visit to the site. See "Additional Findings" above for an introduction to the discovery of deposits in and the geography of the air trunk.

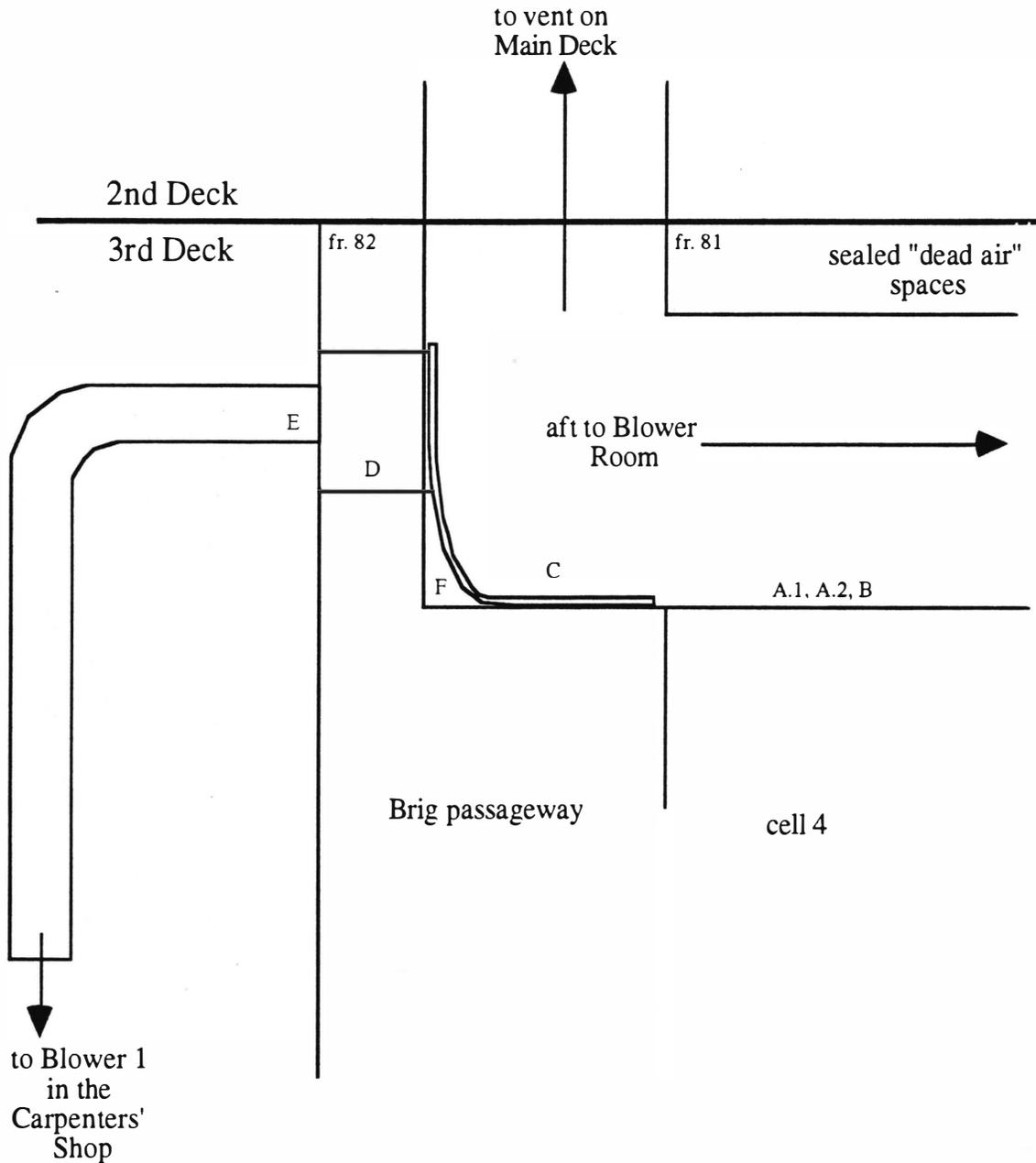
This phase of Brig documentation followed the decision to restore that small portion of the air trunk inside the Brig passageway. Because of the torch and mechanical cutting, derusting, and welding included in this process, a larger area than that immediately inside the passageway (that is, between frames 81 and 82) was examined. The area described here extended from 6 inches aft of frame 82 (that is the Carpenters' Shop) to 3 feet forward of frame 81 (that is above cell 4).



Deposits in the air trunk were removed according to "Collection Areas" which are largely based on construction features of the air trunk itself. Because of their different sizes and shapes, these areas are as follows:

# Brig-Carpenters' Shop furnishings documentation

- A to the starboard of the baffle, from frame 81 to a point 3 ft. forward of frame 81, further divided into two parts
- B to the port of the baffle, from frame 81 to a point 3 ft. forward of frame 81
- C open and exposed area occupying the forward side of the vertical passage connecting Main Deck to 3rd Deck



schematic cross-section through the air trunk above cell 2, looking to port

- D small, rectangular space occupying the aft side of the vertical passage mentioned in C
- E small portion of a horizontal air vent which communicated between Area D and the blower located on the deck in the Carpenters' Shop
- F small gap between the curved baffle at the aft end of Area A and the plates closing the aft end of what would otherwise be Area C
- G lip projecting from the forward member of the frame supporting the armored grate above areas D, F, and C

The location of deposits within each Collection Area is controlled by the use of collection units. Collection units might be applied either to groups of materials with a common provenience, or to individual artifacts. The following table is a guide to the correspondence of Collection Areas and collection units. Collection units are included in each Area discussion as appropriate. Note that Area F is included with the Area C discussion.

<u>Collection Unit(s)</u>	<u>Collection Area</u>	<u>Date of Investigation</u>
1	A.2	10/12/94
2 - 5	C	10/12/94
6	A.1	10/12/94
7 - 10	A.2	10/12/94
11 - 12	A.1	10/12/94
13 - 21	D	10/13/94
22	E	10/13/94
23	F	10/14/94
24 - 27	A.1	10/14/94
28	C	10/14/94
29	G	10/14/94

During this investigation large quantities of black, shiny, coarse grit were found. This is believed to have been an air-borne abrasive used for de-rusting large surfaces. It is found in many areas throughout the ship. Its probable association with the ca. 1988 dry-docking and its ubiquity makes it a useful time period marker.

The deposits inside the air trunk are irregular both in amount and in constituents. Rust scale tended to be against certain corners and along bulkhead faces. In most areas, deposit appeared coincidental; only in Areas D and G was deliberation evident. The effects of the continuous wind to which this area was subject as well as architectural irregularities made for micro-

conditions. Small changes in position and small construction details could make seemingly great variation in the nature of the deposits. This is both good and bad from a preservation standpoint. It is good because a sample of a wide variety of material, light and heavy, large and small might be preserved somewhere. It is bad because it complicates the tracking of deposition sequences. These small variations in conditions can make for very localized conditions and therefore very localized stratigraphy. These localized patterns can overlap, blend, or otherwise interact one with another to create a daunting puzzle. Add to this the effects of scour and fill sequences and the task can move from daunting to mind-numbing.

Each of the Collection Areas has some physical separation from the others. Variation in the nature and layering of deposits should be expected between Areas. Sometimes very small internal changes also affected the deposits within an Area.

#### Area A

Areas A and B are isolated one from another by a large baffle of sheet iron. Although the baffle panel is now rusted through at the bottom, the angle iron that once secured its base is still present.

A leg of this angle iron separates Areas A and B. This separation is emulated in another, 6 cm. high angle iron support that divides Area A into two parts. On the starboard side is a triangular wedge; on the starboard side is a trough-like rectangle that continues forward the full length of the air trunk into a blower room. The triangular wedge in Area A is 54 cm. wide at its base and 109 cm. long. Collection Area "A.1" includes only the first 3 ft. of that length. The 3 ft. length of the rectangular area cleaned out as a part of this documentation is "A.2".

Areas A.1 and A.2 were excavated in simplified levels to speed the work. However, as these were removed they were examined and variability noted. This information was used in creating the prototype for air trunk stratigraphy below.

The triangular wedge, Area A.1, had been examined during an earlier visit to determine what (if any) stratigraphy was present at the aft end of the air trunk. The results of this testing were collected in unit 1. In this process it was mixed with some material from Collection Area C.

Area A.2 was collected in two layers. The upper (collection unit 7) was the bulk of the deposit and extended to within about 1.5 cm. of the floor of the air trunk. The lower layer extends down to that floor. It includes both soft matrix (soil) and "felt," discussed elsewhere.

In Collection Area A.2 certain artifacts lying directly on the air trunk floor were collected individually (collection unit 8). Otherwise material associated with the trunk floor was collected as a unit (collection units 9 and 10).

Collection Area A.1 was collected in three parts. The first and highest (collection unit 6) consisted of loose matrix and items such as pieces of paper on the surface of the Area. The second level (units 11 and 12) included all deposits down to the top of a thin layer associated with the air trunk floor. This level tended to be loose and contain large amounts of rust and scale. Will Michels photographed the top of this level.

This bottom level was well defined by its firmness and the artifacts present at or on its surface. The artifacts included a large piece of newspaper (unit 24) and a chipping hammer (unit 25) both of which were collected individually. These were on the same level and very close together. The newspaper was opened to automobile classified ads. The contents of these ads suggest dating to August of 1943 to 1946. Unit 26 also includes an Orbit chewing gum wrapper, pieces of cloth, and "felt" directly on the trunk floor.

### Area B

Area B was dramatically different from the other areas discussed here. It seems to have been swept some time in the past and was covered primarily with rust scale. This may be related to the use of this air shaft as a conduit through which compressed air and other lines were passed from the main to the 3rd Deck.

A small patch of dark "felt" was present in its port-aft corner. It lay at the slight drop in elevation from the curved to the flat air trunk bottom. No collection was made.

### Area C

The upward-sloping bottom of this Area made its contents naturally slide down and forward. The steepness of the slope also adversely affected

any possible stratigraphy. The only layering was no more than 1.5 inches of black deposit toward its forward-starboard corner. These 1.5 inches included the following layers (from top to bottom):

1. large, heavy rust scale
2. smaller rust scale fragments
3. some rust and paint flakes in a matrix of black, dry dock grit
4. very thin variable layer on the rusted bottom of the air trunk; either red rust dust or tan dust/sand mixed with black dry dock grit

This sequence is probably the result of some disturbance that took place in the not distant past, possibly related to the same forces that affected Area B.

A small wedge of dark "felt" was also found in the forward-starboard corner of Area C. This is a remnant of what was probably a larger and more original pattern. It lay directly on the rusted metal bottom and was collected as unit 28.

Area C is divided into two (forward and aft) parts by a curved facing over the curved bottom of the air trunk. The gap between these had become clogged with rust and debris from above. Some of this deposit fell out during this investigation and some Area D matrix (the upper, dry-dock levels) entered the top during the cleaning of that area.

After both C and D were collected, this panel was pulled back and everything behind it collected as Area "F." Although given an Area designation, in depositional terms, this should be treated as part of Area C with some possible small corruption from Area D. Area F consists of only collection unit 23.

#### Area D

A vertical steel baffle extending up through a heavy steel grate, separates Area D from Area C/F. Beginning at the 2nd Deck this baffle separates the vertical air passage into two parts, one part going forward through the air trunk and passing over cell 4 (that is, to Areas A, B, C, F, and beyond). The second part passes aft and down into the Carpenters' Shop. It is rectangular with a flat bottom. Its size is approximately 30 inches (fore-aft) by 46 inches (port-starboard) by 29 inches high (floor to bottom of grate). Its aft end is at frame 82, at the aft bulkhead of the Brig. A small rectangular vent

exits aftward from this box, passing into the Carpenters' Shop before turning downward. The small collected portion of this horizontal length of this air trunk is Area E.

Area D contained much larger amounts of deposit than Area C. This was particularly apparent on its port side where tan matrix overlying black, dry-dock grit was mounded six inches above everything else in the Area. The mound gave the impression of deliberate dumping. This impression is reinforced by the inclusion of paper, wood dowels (possible damage control plugs), bolts, and screws in the aft-starboard corner (collection unit 15).

The tan over black deposit had few artifacts and extended over all the surface of Area D. The artifacts included a paper cup (see collection unit 13). Below this recent layer was an inch-thick layer of paint chips and rust flakes (collection unit 14). This overlay what was at one time a "floor" (in the archaeological sense). The paper cups and other debris on the surface of this "floor" constitute collection unit 16.

No great changes were present between the "floor" and the rusted bottom of the Area D vent. However, it was arbitrarily divided with its upper 2 cm. in collection unit 17 and the bottom 1 to 2 cm. in unit 18. In the first, only artifacts were retained. In the latter, matrix was also retained. Finally, items in direct contact with the bottom of the air vent were placed into unit 19.

Some artifacts were bunched into the aft-port corner at the irregularity created by the protruding edge of the small aft opening. This group of items includes newspaper fragments as well as Orbit chewing gum, a World War II diagnostic.

Also on the bottom of the vent is part of the editorial page of a Honolulu paper (collection unit 21). Although no exact date was observed, this almost certainly dates between late 1944 and late 1945 when BB35 was in the Pacific Theatre.

### Area E

This is a 6-inch long stretch of flat-bottomed horizontal air vent located entirely in the Carpenters' Shop. It joins Area D at frame 82 and communicates with a vertical shaft that passes to or through 3rd Deck. Its mouth at frame 82 is 9.5 inches high and 29 inches wide. A spar is present at

the centerline of this mouth. This spar is important because at some time in the past a black sock and the bottom of a knit tee-shirt had wrapped themselves around it. The way in which they were twisted together suggests that the force of the air passing through this small opening was great. There is nothing about these items that precludes them from having been Navy issue. These and other artifacts are in collection unit 22.

Deposits are deep but consist almost entirely of a thin layer of tan powder over black dry-dock grit. Paper cups project up through this. The perhaps foot and a half the air vent between these 6 inches and the turn downward to the deck below, was uncollected. Unfortunately, during later construction (probably in November) workers removed most of the upper layers of deposit that had been left in this vent. They discarded this material into boxes for removal from the ship. A subsequent sorting of the contents of these boxes recovered many items. Some of these may have been from this area. One item in particular, a paper Coca-Cola cup, had been crushed in a manner very reminiscent of one lying at the surface of the deposits just outside of this Collection Area. Of course, identification is tentative.

#### Area F

See the discussion for Area C.

#### Area G

The overhead of the small Area designated here as Area G is a heavy iron grate supported on heavy iron girders. The purpose of this grate was two-part. It provides decking for 2nd Deck while at the same time allowing the free passage of air from Main Deck to the lower decks. It also provides some protection against plunging fire that might enter the air shaft. The designers of the ship provided for heavily reinforced support to sustain the thickness and weight of this grate. One member of this support structure passes beneath the grate at the separation of Areas C and D. The lower lip of this central support is exposed to deposit from above in Area D and accordingly was examined.

It was collected almost as an afterthought upon noticing the build-up of tan powder on it. Although this location might technically be considered a part of the 2nd Deck, its heavily rusted condition combined with the access

being provided by this restoration will doubtless bring attention to it and result in the destruction of whatever lay beneath this accumulation.

The findings here (collection unit 29) are surprising. Many if not most items in this air trunk accidentally came to lie where found. Such was not the case here. A bundle-like cluster of iron wire or rod had rusted together and to the frame itself. The length combined with positioning perpendicular to the openings in the grate immediately above, would have prevented their coming to rest here by accident.

The bundles are as yet unidentified. They had no flux as would be expected from a small bundle of welding rods. They might have been part of a bundle of wire commonly used by the military for wire and wood boxes. However, the folds at the wire ends could not be recognized and stapes are absent. A cluster of wire found in similar circumstances elsewhere has subsequently been found to be the remains of an umbrella.

This is unlikely here because of the absence of a handle, and any sign of cloth or secondary struts. Indeed it is not even certain whether these were parts of a single item or many similar items. However, it is certain that this is not part of the ship's architecture and was not in this location by accident.

Also found, but of less certain origin, are metal disks which might have been iron buttons. Unfortunately the rust was so advanced that without careful conservation and study, a more definite identification might not be possible.

### Stratigraphy

Collection Areas A and D, and the forward end of the air trunk are the most pristine of the areas explored in the air trunk. Together these provide some sense of what other air trunk deposits might be like. Of course for reasons that should be very clear after reading this report, what is being proposed here is just a guide. Local conditions change dramatically over short distances; the thickness and even presence of certain layers can change from area to another or even within an area. Any rigid approach is inappropriate.

Under most conditions, air vent deposits should be only 1 to 2 inches thick. Excluding TPWD period dockyard grit, rust scale, and soda overburden, it should be only about half that. Paper drink cups are a hallmark for

Commission period deposits. Below the TPWD and Commission deposits is a thin layer of either air-borne dust and/or red rust powder. Sometimes small flakes of rust scale with paint also occur, either mixed or as a definable layer itself. Navy period deposits, excluding large items such as shoes or chipping hammers, should be between 1 and 2 cm. thick. It lies directly on the rusted metal of the trunk itself, usually in the form of "felt". In a number of cases, artifacts lay directly on the floor, or within a fraction of a centimeter from it. A "felt" layer over all or at least some of the metal surface is common. Where such occur above the floor of the air vent, its dating is less certain, but should be considered Navy until more fully explored.

The very large (up to 2 in. on a long axis) pieces of rust scale are most evident close to the vertical sides of the air trunk. These were a characteristic both at the forward end of the air trunk and in Area A.1, and can add to the amount of deposit. It can also overlie the black blasting grit thought to have been spread through the ship during its dry-dock restoration. This grit is sometimes accompanied by a very fine light tan powder. The origin of the powder is unknown, although this may be a chemical soda used in the past as an air-borne abrasive. This should be expected near the center and aft ends of the ship where TPWD experimented with it. In Collection Areas D and E this material was particularly abundant. It is also an intriguing and potentially very useful phenomenon.

The term "felt" is here applied to a range of materials that may or may not be cemented together. Although it can be patchy, either there is an observable reason for its absence or it is nearby. It can contain large artifacts (like the Orbit gum wrapper in Unit A.1) and it can show "cleavage" (that is contiguous layers cleave cleanly away from it). Its color is a dark gray to black. It consists largely of fibrous material some of which is hair, threads, and string – all light and easily air-borne. It has coherence and "body" that resists tension but compression much less so. It can lie directly on any horizontal surface. In Area D for example, it coated the iron floor of the vent. At the far, forward end of the air trunk however, it was an almost transparent, soft fluffy blanket over earlier deposits. A working hypothesis is that the "felt" results whenever air flow allows these very light elements held in suspension to drop. The subsequent character of the "felt" is influenced by accompanying particulates, moisture, and the pressure of overburden. It will likely be

present on vent floors. "Felt" at higher levels may be less common. In either case, it may well contain a very interesting sample of the material culture assemblage that the wind so conveniently sorted out for us.

When the ship was first constructed, hair was used as lagging for certain air vents.

The supply mains and branches to the powder magazines are lagged with 2" hair felt and the return mains and branches with 1" hair felt. The felt is wrapped with wire and then covered with canvas. All pipes passing through these compartments are lagged. (General Information, U.S.S. "TEXAS"; section I, page 64)

It is not impossible that some of this lagging remained in use into the later years of the ship's history. Although it was applied to the outer surface of the air trunks and well secured, some might have been drawn into vent interiors either through imperfections, or cuts made into the lines. Thus some of this lagging might have been reworked into what is here called "felt." While on the one hand it would not explain the large amount of felt present, it also offers some interesting prospects for dating depending on which lines were so lagged and when hair lagging was (or was not) removed.

### Summary

The post-Navy deposits will be associated with paper litter and signs of substantial rust, whether measured by scale size or total quantity. In most cases this should be associated with dust that accumulated over years when the blowers were still working but no effort was made to clean out the vents. This may have been during the years following the Navy's decision to dispose of the TEXAS, or even during the early decades of Commission operation of the ship (if the blowers were still working during this period). However, there is no doubt but that a significant portion of these deposits dates to the period of Navy use. The historic artifacts include iron, wood, fabric, and paper. These will pose conservation challenges as the collections grow.

As yet the maintenance history of the ship's air ventilation system is not known. [Little has been done to look at the history of the ventilation systems for this report. For purposes here, such an investigation should include not only the Navy's original structure, but also the period from the

middle 1945 when BB35 was still active, through her refit in preparation for memorial status, and through her period as an historic site.] However, effort in this direction would serve well not only the study of this area, but would also lay good groundwork for the investigation of other air passages as restoration advances. For an introduction to what the documents reveal, the reader is referred to the section of this report titled "documentary data on the ventilation systems."

The deposits may vary from one ventilation pathway to another, from one part of the ship to another. It may also vary locally to include substantial build-up depending on maintenance and local conditions. Factors such as accessibility from outside (for example, the holes cut into the lines for extra air) will also have an affect on the amount and nature of the deposits. However, unless unusual conditions apply, the identifiable Navy period deposits should have an average thickness of less than an inch, excluding large artifacts.

At present there is not enough information to determine whether the types of materials present in this investigation will be characteristic for the ship as a whole, or just for those areas associated with the Brig. Excluding TPWD period deposits (that is, some dust perhaps but mostly tan powder and black grit), the historic deposits including the operational Navy, memorial Navy, and Commission periods, should be only 1 to 2 inches deep.

The material here called "felt" has potential as a valuable horizon marker. However, its dating and the process of its creation have yet to be fully worked out. It may because of its contents (the lighter items) also have many uses. [The possibility of detecting parasites, that is body and pubic lice, is already being explored. However, no replies have been received at the time of the writing of this report.] However, it is already apparent that a large amount (if not all) dates to the Navy period.

## Introduction

Blower 1 includes the motor, fan, and associated ducting located at frame 83 at the forward end of the Carpenters' Shop (Compartment C-102). This collection consists of items removed by workers restoring C-102 and comes from the housing around the moving blades and the vertical sheet metal intake duct. This material is also associated with the Brig as much as it is the Carpenters' Shop.

## Blower Description

The blower includes an external electric motor on a short metal pedestal, an enclosed squirrel cage fan, and a long, U-shaped bend of sheet metal air duct. The blower receives air through a sheet metal line connecting the box surrounding the squirrel cage fan, to a 6-inch high opening near the overhead in the frame 82 bulkhead. The other side of this opening is discussed elsewhere in this report as Collection Area E of the "air trunk above cell 4" of the Brig. By this route Blower 1 communicates with the mushroom-capped inlet, on Main Deck portside between frames 81 and 82.

The exhaust from the blower is forced upward into a sheet metal duct which rises vertically several feet and then bends 180° downward at a height of about six feet above deck. The duct continues straight down, passing through the armored deck to the compartment (the Steam Pipe Passage, compartment B-24-P) immediately below on the First Platform. At the point where it passes through the armored deck, it is supported by small flange of metal riveted around the opening. In the Compartment below, it branches into many continually smaller vents which thoroughly cover B-24-P.

A control structure is attached to the vent in the Carpenters' Shop where it passes through the deck. This structure is enclosed by a sheet metal hood that extends from the port face of the vent itself at deck level. Its workings are hidden, but it may be a mechanism for watertight closure. The most obvious feature of this structure is a long, narrow opening through its sheet metal cover. Obvious inside this opening (and as yet unremoved) are a large number of paper cups and other debris. The character of this deposit is similar to that found elsewhere and in some ways, to that described below. For the most part it is litter from visitors to the ship during the Commission and early TPWD years. According to Margarita Marders (Acting Curator of the ship interviewed in

March of 1995), visitors were no longer allowed into this area sometime between 1986 and 1988. These deposits should therefore date no later than this.

A visit to the Steam Pipe Passage quickly revealed where the above vent enters this space. Here the rectangular vent turns 90° and extends fore-aft just under the overhead. A large number of paper cups and other items had fallen through a large rust hole here. These items were very moist. A single Camel cigarette carton was collected from this group of items and turned over to the Curatorial section at the ship because it appeared to be older than the other items here.

A single sheet of metal covers the gap between the two arms of the "U" formed by the upward and downward arms of Blower 1. This appears to have been done some time in the distant past and even has a coat hook installed on it. This span of sheet metal not only provides stability, it also supports the blower housing which is not open to the deck but is supported only by a steel tab welded to the deck.

#### Collection Methods

Material associated with Blower 1 was discovered by workers restoring the compartment sometime on 27 October 1994. Their method was simple disassembly of the blower box after which its contents were put into cardboard trash boxes. It is thought that all of the artifacts were initially located inside of the sheet metal box surrounding the rotating squirrel cage fan and inside the sheet metal air inlet coming from above into this box.

Having already been alerted to the interest in what was found, Craig Groce, staff coordinator of the volunteers at the ship, gathered together the artifacts they found and turned them over to the Curatorial staff on the ship. Non-artifactual debris was however discarded. Thus some of the material from this blower may be part of that in the "back dirt" discussion, and this collection is not complete.

One item included here was collected in an unusual way. On 28 October 1994, while working on the disassembled blower, George Templin one of the ship's staff, directed compressed air into the blower which traveled into vent pipe which connected with the fresh air trunk in the Brig passageway. This forced out of the vent and into the Brig a candy bar wrapper, described below. The wrapper was collected by Norman Snipe, another member of the ship's staff

who was in the passageway at the time, and who turned it over to Curatorial staff.

### Artifacts

The artifacts collected are listed and briefly described below. Note that everything is fragmentary and that the numbers given are not the number of fragments but the estimated minimum number of that artifact.

#### other

2 or 3 paper fragments, whitish, possible paper towels although they also suggest non-foil wrappers for chewing gum

#### tobacco products

1 cigarette pack, Lucky Strike, with red circle on white paper; has a blue "Sea Stores" non-tax stamp

#### reading material

1 bag paper fragments, too fragile to be uncrushed, mostly color newspaper comics but with some text also; only identifiable comic is Blondie & Dagwood

#### food items

1 or 2 paper cup, red print on white paper; appears to be a Coca-Cola design

1 popcorn paper bag, red and blue print on white showing "10¢", "not over 2 ounces", "Mfd. by Walt . . . & Company", and "peanuts, fat- . . . oils, cocoa powder . . ."

2 or 3 silver foil, inner chewing gum wrappers

3 chewing gum wrappers; Wrigleys Juicy Fruit; one (a half stick) is unchewed with silver wrapper and stick still present

1 chewing gum wrapper; Orbit Peppermint; manufactured by Wrigley; yellow; name on one side and much obscured text on the other

1 peanut shell, cracked open

1 hazel nut shell, cracked open

1 candy bar rectangular insert,  $1 \frac{1}{4}$  by  $3 \frac{13}{16}$  inches

1 candy bar rectangular insert,  $\frac{15}{16}$  by  $3 \frac{1}{2}$  inches

2 candy bar rectangular inserts,  $1 \frac{1}{2}$  by  $3 \frac{3}{8}$  inches; a white paper plastic bag for candy or loose nuts made by Planters; red, white, and blue printed on a clear material

1 candy bar wrapper, Mason's "Mint Bar," of silvered paper with blue print

- 1 candy bar wrapper, Mars Snickers, 1  $\frac{1}{4}$  ounces; red, white, and blue print on a specially treated wrapper; possible date on the edge of the wrapper: "Mars, Inc. 195(6 or 8)"
- 1 candy bar wrapper, Hershey Milk Chocolate Bar;  $\frac{3}{4}$  ounce,
- 1 candy bar wrapper, Curtiss Butterfinger; printed yellow and blue on white with the following writing: 5¢ / Chicago 13, Illinois; also mentions what appears to be another candy: Coconut Grove
- 1 candy bar wrapper, Power House, very fragmentary but red and white print on white paper
- 1 candy bar wrapper, PayDay, very fragmentary but indicates contents of salted (nuts?) and caramel; wrapper mentions a promotional asking for 3 wrappers
- 1 inner and outer candy bar wrappers, Almond Royal (83.83.4499.b), manufactured by Luden's Inc. of Reading, Pennsylvania. The bar weighed 1 ounce, and is described as having a chocolate center with almonds. The outer wrapper is printed in yellow and purple. This is the wrapper which was blown by compressed air into the Brig passageway.

### Summary

Dating information on this assemblage is presently poor, but with potential. For example, the Almond Royal candy bar wrapper has neither zip code nor bar code. At present we have no information about the dating of this particular bar, although it likely predates the early 1960s on this basis alone. This company still exists, but is now a subsidiary of Hershey Foods Corporation. This company, perhaps better known for its cough drops, was acquired in 1988 by the Hershey company, but unfortunately did not provide its new parent company with much information about company history or its past products (based on 3/29/95 oral information from Pamela Cassidy, archivist for the Hershey Community Archives).

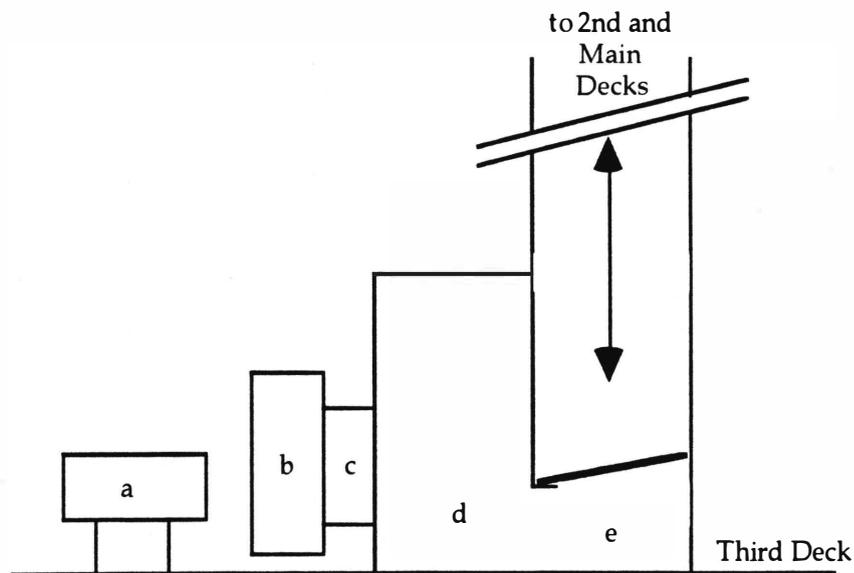
Without something more on the history of candy bars, or identifiable dates on the newspaper, or other evidence, the dating of this assemblage is uncertain. Nevertheless, it is the kind of material for which some history can be expected to be available somewhere. Some of these items doubtless date to the period when the ship was a memorial rather than in active service. Certainly the paper cup seems to be one of these. However, at least two Navy diagnostics are present: the Orbit gum wrapper (World War II) and the Lucky Strike pack (Navy period due to its non-tax stamp).

In its broader character, this collection has many similarities with that from the air system near cell 4 in the Brig. The newspaper and chewing have presence of newspaper is reminiscent of the Honolulu / 1940s paper found in Areas A and D. This may be due to the fact that they are connected. It is also different in that it contains so many candy bar wrappers. In this it has similarities to the dead air space above cell 4. In addition to the number of candy bars, notable also is their variety. All of the seven candies (Planters, Mason's Mint, Snickers, Hershey, Power House, PayDay, and Butterfinger) are different; there is no duplication. This is the kind of deposit that might be expected from a single individual who, long prevented from enjoying candy, sought to sate his appetite by having one of everything. With additional research however, this remains more than speculation.

Introduction

Blower 2 is located at approximately frames 87 to 88 of the Carpenters' Shop (compartment C-102). Included are a motor with a deck pedestal supporting an electric motor, a squirrel cage fan with surrounding enclosure, and a large plenum chamber through which air is drawn to the fan. It is constructed of angle iron, sheet metal, etc.; no wood or other "soft" parts are involved. Its interior is painted a shiny, bright red. There has been the suggestion that this blower was cleaned and repainted sometime since the ship returned from drydock. Certain the paint's good condition may also suggest that it was done recently.

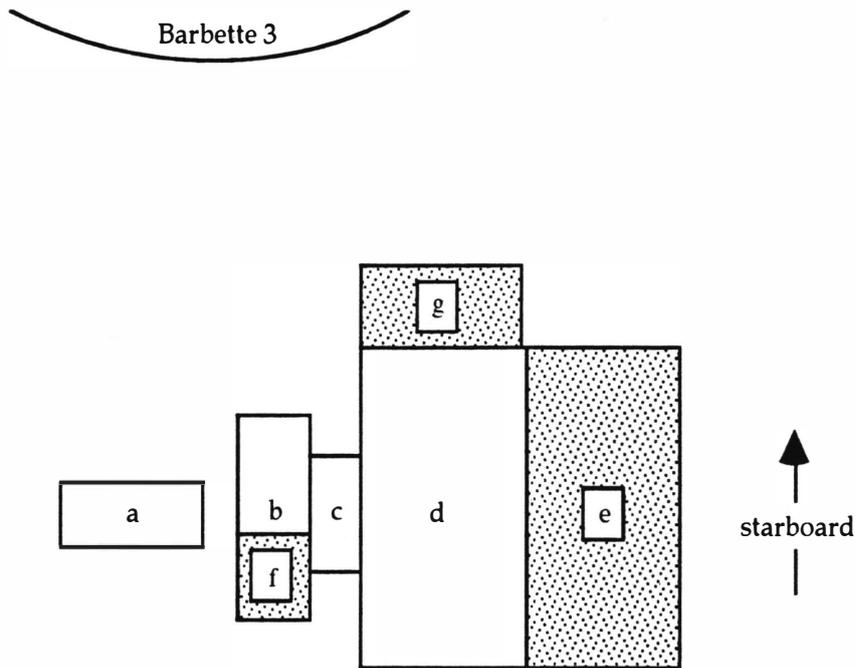
Bright red paint was also found in a non-striping context nearby in the Brig, both as drips on the shelf in the passageway, and on a rag from the Brig passageway air duct. In addition, there is a fire fighting fixture with bright red paint nearby. The drips on the Brig shelf are under two other layers of paint and because it is considered to be historic, will be duplicated when this space is restored. Whether the paint inside Blower 2 is associated with these other examples is not known, and its date of application unknown although possibly very recent.



schematic cross-section, Carpenters' Shop Blower 2 looking starboard (not to scale)

- legend:
- a. electric motor
  - b. fan housing
  - c. air feed
  - d. forward end of plenum chamber
  - e. aft end of plenum chamber, note water-tight door sealing it from the main deck air vent

Blower 2 is very different in function and conformation from Blower 1, located only a few yards away. However, both blowers appear in early drawings of the ventilation systems in this area (for example 32119-09-35B103L, 32119-09-35B106L, and 32120-07-283028) and are part of the ship's original design. There is also evidence that these actual constructions were those originally installed. On the portside face of its fan cage enclosure is a plaque with raised lettering giving the name of the manufacturer (BESTURLEVANT CO. of Boston), a patent date and number, and a serial number. Because of the thickness of the overlying paint, the lettering could not be read. However, drawings of these blowers and this manufacturer are present in microfilm dating to about 1912.



schematic plan view, Carpenters' Shop Blower 2 (not to scale)

- legend:
- a. electric motor
  - b. fan housing
  - c. air feed
  - d. forward end of plenum chamber
  - e. aft end of plenum with water-tight door sealing it from the main deck
  - f. vertical riser to air vent opening into "d"
  - g. vertical riser to air vent

Two small tests were done to determine the thickness of the deposit, detect any possible stratigraphy, and to recover diagnostic artifacts. These goals were only partially met. Most of the contents of the blower have been left in place. To

avoid damage to the deposits during construction, signs were left in place with warnings not to intrude or otherwise disturb the blower.

The provenience of the recovered materials is related to the blower's inner morphology. For purpose of documentation the blower is divided into five parts (see the accompanying sketches). The deposits in question lie inside parts "d" and "e."

### Blower Construction

The motor which powers the fan is external, resting on a small platform immediately outside and forward of the main blower body ("a"). [The reader is referred to the accompanying Blower 2 plan and cross-section drawings.] At the forward end of the main blower body is the housing ("b") in which the fan rotates. This rectangular structure is supported by legs which extend to the deck. It is just under 17.25 inches deep (fore to aft) and contained only a broken light bulb and other very recent trash at the time of this investigation. A single rectangular outlet extends vertically from the port side of this fan housing, connecting it with a rectangular vent that extends forward down the Brig-Carpenters' space passageway.

A short length of large diameter pipe ("c") connects the fan housing to the blower box. It is about 8.5 inches wide (on a forward-aft axis).

The air box itself is immediately aft of the connector and resting on the deck and is fixed in place by angle iron. The plenum has two parts, both of which are about 31 inches wide (port to starboard). The forward chamber ("d") is rectangular. The overhead inside is 43 inches from the top of the deposits covering its deck. A 19.25 inch wide and 23 inch high rectangular opening extends from its starboard face. This inlet is fed by a series of vent lines which come together near Blower 1.

Blower 2 appears to both recycle and freshen the air on these lower decks. Fresh air comes from the main deck vent. This is mixed with air pulled from other areas of these lower decks. The two are mixed and then pushed by the fan upward and forward where rectangular sheet metal ducting carries it forward to the Brig entrance. Here it splits into many parts, one continuing forward and to starboard, and others down to the next deck below. When condition of material readiness is upgraded (that is, the level of watertight integrity is raised), the

connection to the main deck can be sealed. At this time, the blower can no longer bring in fresh air but continues to recycle air within the ship.

Area "e" is distinguished from area "d" only on the basis of its lower overhead height. The bottom of the water-tight hatch enclosure extends to within 17 inches of the top of the deposits in this portion of the air box. This is caused by the presence of an air shaft above "e" which extends vertically to a mushroom-capped vent on main deck. The base of this vent includes a water-tight horizontal hatch and its frame. The hatch is hinged at its forward edge and swings upward into the air trunk. This has been a source of additional deposit into the plenum chamber and increased the surface elevation of the deposits in area "e" above where they would otherwise be. With the exception of some small additional deposit, there is no physical separation between "d" and "e."

However, the surface of the deposits rises toward the outer edges of chamber "d" and particularly toward its corner.

#### Collection Methods

The floor of the vent opening into the starboard side of "d" has such a shallow slope that items had accumulated on it. The most obvious of these are paper drink cups. None of these were collected. Artifacts were also present on the top of the deposits. These included a paper cup and a booklet, collected earlier by Will Michels. One item of wood was also collected.

Two small tests using standard techniques were made into the deposits of chamber "d." Test 1 was at the aft edge of "d" in the center of the plenum. This was the point of lowest elevation in the surface of the deposit. This lowest point is at the base of the aft wall in chamber "e." It extended from below the center of the juncture between "d" and "e," forward 4.5 inches into "d" and 4 inches starboard from that center point. The full depth of the deposit here is less than 2 cm. The upper portion of this layer is thoroughly wet, but the deposits become drier with increasing depth. The only observed artifact was a single paper match. The matrix was retained.

Test 2 extended 5.5 inches aft from the forward edge of chamber "d," and from 8 to 16 inches starboard from the port face of the chamber. It was below the opening of "c" into "d." Deposits were much deeper here and a few additional items were found here. The matrix was retained.

The stratigraphy of test 2 confirmed the findings of test 1, but was complicated by inclusions. This included paper and other organics in it. Also present at its forward edge was a white crystalline material which is not limited only to the area of this test. The origin and identity of this is not apparent although its shape suggests that it may have been a liquid at one time. It also resembles the crystals which cover one end of the wooden plug, and might be glue.

A piece of wood lying on the surface of the deposit in area "e" was also collected. Pieces of wet paper had been earlier removed from either "d" by Will Michels, restoration architect at the ship.

### Deposits

On first examination the bottom of the air box (parts "d" and "e") was covered with a soil-like deposit that varied between wet and damp. No obvious source of moisture was found, even though an examination was also made of the mushroom-capped stack on the main deck.

The deposit is black in color and contained some of the black abrasive grit used during the 1988-90 refurbishment and also found in the air trunks of the Brig and elsewhere on the ship. Its surface was slightly irregular with a mounding in the center of the air box directly below rust holes in the frame surrounding the water-tight hatch. This rusting had also exposed its hinges of this closure.

The deposit as a whole tended to be higher at the air box walls with the highest point in the aft-starboard corner. Its upper surface had a reddish cast, caused by a very thin dusting of red powder over its surface. The origin of the red dust is uncertain although it may be a result of the recent restoration efforts in the Brig and Carpenters' space. Possible sources are rust and chipped "deck red" paint.

### STRATIGRAPHY

Excavation was not done according to any stratigraphy because the deposits was so thin and wet. However, examination of the profiles helped to reveal a simple two-part stratigraphy.

The upper part of the profile consists of the larger of the two layers. It is a dark matrix with large and small fragments of rust scale combined with dockyard

abrasive grit. It is approximately one centimeter thick although there is some variability in this. Although it may be slightly thicker toward the side walls of the chamber, this is not greatly so. On the other hand, the lower layer much thicker along the walls of the plenum. The lowest level, generally no more than a half centimeter thick, is 2.5 cm thick along the wall.

The texture of level 2 is lighter in color and looser in consistency, although this may stem from its comparative dryness. It contains a high organic content including wood, paper, and cloth. Something similar to the "felt" found elsewhere [see discussion of the air trunk above cell 4] is also present.

### Artifacts

Artifacts were visible on the surface of the deposits, inside of the sheet metal outlet from chamber "d," and in the deposits. This included primarily paper cups and (in the forward-port corner) a wooden plug. The plug was collected because of the possibility that it related to Navy occupation of the ship, but the paper cups were left in place. The plug is a simple cylinder of wood measuring 1.5 inches long and 1.25 inches in diameter. It does not have the taper of a damage control plug but instead resembles the wood plugs used to close holes in the deck boards. [It is through these holes that extend the metal deck studs that secure the wood to the deck.]

Pieces of very wet paper were removed earlier by Will Michels. It included some very soggy pages from a Navy recruiting pamphlet. One page includes a mid-1950s date (either 1954 or 1957) and was not likely used for more than a decade (at most). The paper was lying on top of the other deposits, suggesting either that the deposits predate that time or that the paper was a relic when deposited there.

The plug was wet at its upper end and had a piece of paper adhering to it. The paper was very deteriorated and has something printed on it which unfortunately could not be recognized. At the other end of the plug is covered with a white crystalline material that may have been sap or perhaps a glue. Additional such material were found in test 2, located nearby.

### Summary

A number of items are of interest, but none is truly diagnostic of the earliest possible deposit. Two noteworthy items found on the surface of the

deposit (excluding the paper cups, characteristic of a Commission period deposit) are the wooden plug and the pieces of paper recovered by Will Michels. The former is a simple plug with some paper adhering to it. The paper does not help with its dating. The plug is not tapered and appears most like the plugs used to close the holes in the wooden deck. However, Jim Bigger, TPWD architect who oversaw the design and installation of the new decking, examined the plug and noted that it is too long to have been used during the recent (1988) deck restoration. The only other presently known deck work that may have entailed replacement of deck timbers was done by the Navy.

The paper collected by Michels in a context similar to that of the plug likely dates no earlier than the mid-1950s. Further the large number of paper cups is also Commission in dating. This presents the possibility that some deck repairs were done at this time. This would also explain the small bit of possible wood shaving found in test 2.

The red paint on the deck under the deposits is similar to that used for identification stripes on certain pipelines on the ship. Drips of this red have also been found in the Brig passageway on a rag in a Brig air vent. However, no drips of paint are visible on the surface of the deposit as would be expected if the deposits were in place at the time of the most recent painting. This suggests that it was painted before the deposits were in place.

The potential to date this deposit depends on the artifacts included in it. The artifacts in Blower 2 are in such a fragile state as a result of their dampness that it is not presently possible to date them. The presence of "felt" suggests that they were accumulating when the blower here was still in use. On the whole, the deposits here appear to be Commission in date, with the only Navy period potential present in the "felt" mentioned above.

### Introduction

In the Brig – Carpenters' Shop area most artifacts were found in conditions that hid and thus protected them. A smaller proportion were found exposed in the compartment. This discussion addresses those items which were exposed but fortunately retrieved before being discarded into the trash boxes. It also includes for the sake of convenience, one item that was found in an air vent, but was the only one found here. The circumstances of discovery for the other items is included in the individual discussions below.

### Master-at-Arms Berth

A single item was found in December of 1994 by a workman during restoration of the large air vent which passes from the Master-at-Arms ("M.A.") Berth, into the passageway in front of it at about frame 77.5 . From here the vent trunk extends forward to (and through) the frame 76 bulkhead (which marks the forward extent of the area being restored). When the passageway ducting outside of the M.A. Berth was removed, a knit cap was discovered inside, about a foot to port of the Berth entrance and therefore technically within that compartment.

The cap is a very dark blue knit, and measures about 10.5 inches from edge to crown. Its opening is about 6.75 inches in diameter. Such hats, called "watch caps," were standard Navy issue and by all accounts, very warm. No fiber analysis has been done, but if this is Navy issue it will most likely be wool. It contains no obvious markings in spite of its remarkably good condition. How it came to be in this vent is not known.

### Brig

A whole orange, shriveled and black was found on frame 82 in cell 3. Similarly several pieces of similarly desiccated orange peel were found on the small shelf in the aft-port corner of cell 5. The orange had been cut into quarters and eaten, with the peel abandoned on this shelf. It is tempting to consider these as examples of contraband. Unfortunately, none of these survived the restoration process.

Carpenters' Shop Artifacts

In the Carpenters' Shop, most lay atop a large rectangular air duct between frames 91 and 92 at the aft end of the compartment. At one point this duct expands from its usual size to enclose a steam radiator by which the air can be heated. These artifacts were recovered by Will Michels on 21 November 1994 atop this radiator fixture and to either side of it. A few were also found on the ventilation duct at frame 82.

The following items were found on top of the air duct at the aft end of the Carpenters' Shop between frames 91 and 92 as described above.

- 4 cardboard stencils (83.83.4501). These are roughly cup strips of a heavy tan paper into which lettering has been cut. Based on impressed marks on their faces, these appear to have been either cut or held by machine. Based on the smears of black ink across their faces, all have been used at least once, but not so many times that they could not be used again. A white paint appears to have been sprayed across them as they lay one atop another at some time in the more recent past. Each of these four have one of the following lines cut into them:

JAMES F. REARDON  
2849 BRYANT STREET  
SAN FRANCISCO  
CALIFORNIA

A search of the ship's muster rolls reveals that James Francis Reardon, service no. 378-30-29 USNR, came aboard the ship on 16 October 1943, as a S2c. He had enlisted into the V6 program in San Francisco on 2 April of that same year. He was promoted to S1c on 1 May 1944, and to Metalsmith 3c on 1 June 1944. He was finally transferred ("To PSC, T.I., San Pedro, Cal. for discharge.") from the ship on 5 March 1946, when the ship had arrived on the East Coast. His whereabouts are unknown.

- 1 toothbrush (83.83.4502). It has a translucent yellow plastic handle, six rows and two columns of bristles, and a hole in the handle end. Pressed into the handle is the following:

*Johnson & Johnson*

U.S.A.

Tek Professional

The bristles are well used. White paint is on the handle. Green and yellow paint are at the brush end and are embedded between the bristles. Whether used to mix paint or in lieu of a paint brush is not known. However, the red and the green are reminiscent of paints used for identification striping on the ship's pipes.

- 1 retail comestible snack wrapper (83.83.4504). This is a brittle, clear plastic bag fragment, printed in purple and yellow. Although its name is missing it was likely chocolate covered raisins based on the partial list of ingredients, and weighed 1 ounce. It also had the following:

**ANOTHER DAN-DEE PRODUCT**

It was manufactured by the McCarry Nut Products Ltd. of Chicago, Illinois. No bar or zip code is present.

- 1 paper candy bar wrapper (83.83.4504). This includes not only the outer wrapper but also the cardboard insert. The wrapper is printed in purple on yellow with the name of the bar, Oh Hen(ry). Certain lettering is also in red. Unfortunately, the wrapper is so brittle and crumpled that no attempt is made here to examine the wrapper further.
- 1 fragment of a crumpled retail sales bag for peanuts (83.83.4505). The bag is of a transparent plastic and is printed on yellow, black, red, and white with the name "Peanut Maid" accompanied by "TRADE MARK REG". Because of the brittleness of the bag, it was not unfolded for inspection. However, instructions for opening the bag and the manufacturer "Peanut Special(ties)" of "Chicago, ILL."
- 1 paper matchbook cover (83.83.4506). The cover is printed with yellow stars on a dark blue field. It contains three unused matches with no advertising with the exception of the name of the manufacturer, "THE DIAMOND MATCH CO N Y C", in small white letters along its lower, folded edge. "CLOSE COVER BEFORE STRIKING MATCH" is present in white letters along the lower edge

of the front cover. This item may be dateable with additional research.

- 1 paper drink cup. This is a very simple cup of about 12 ounce size. It is printed in red and blue with a face and the words "Your safety starts HERE!" on one side, and on the other side the following:

Complete Vending Service  
CANTEEN  
AT YOUR SERVICE  
T.M. REG. U.S. PAT. OFF.

Around the inside edge of the cup foot is the following: "7A OZ. PRAC. CAP. NO. 27 SPECIAL DESIGN COLD DRINK ® VENDING DIXIE BY DIXIE CUP CO., EASTON, PA. MADE IN U. S. A. " Drinks in paper cups were permitted aboard until the early 1980s. The graphics give the impression of a date no later than the 1950s. Chicago, Illinois. No bar or zip code is present. This item may be dateable with additional research.

The following items were found inside of one of the lockers near Barbette 3, located at the starboard end of Shop:

- 1 clear plastic diamond roughly 1.25 by 0.5 inches in size and about 0.19 inches thick. Partially penetrating its thickness is a small-diameter hole near the diamond's center. This item may be dateable with additional research.
- 2 brass pan head screws, about 0.75 inches in length.
- 1 4-hole, dark blue or black plastic button. About five-eighths inch in diameter with an anchor impressed into its face and a few dark blue threads.

The following items were found on top of a locker located at frame 82:

- 1 flat wooden toothpick about 2 <sup>21</sup>/<sub>64</sub> inches long.

The following items were also found on a vent located at frame 82:

- 1 crown bottle cap (83.83.4509). Printed in white on purple with  
NATIONAL BREWING CO.  
NATIONAL PREMIUM BEER  
BALTIMORE MD.

The seal inside the cap appears to paper over cork. It appears that the person who opened it tried to use a standard pointed can opener and so had a hard time opening the bottle. Although not conclusive, the ship was in Baltimore for over a year between the time that the Navy decided to dispose of her and the time she came to Texas. This company has been out of business for many years.

- 1 swatch of cloth (83.83.4507) about 3.5 by 10 inches. This is a very loose weave (about 32 threads per inch) of light color yard, possibly cotton. Certain parts are smeared with plaster. Insulation aboard ship is commonly wrapped with cloth, the plaster being to seal and cement it in place. Although such work has been done in very recent times, the staining and general discoloration of this piece give it the appearance of age.
- 1 swatch of cloth (83.83.4508) about 2.25 by 8.5 inches. This is very similar to 4507 above, including the presence of plaster and discoloration.

The following items was found 18 April 1995, on top of an air vent in the small space between it and another vent just above. The two vents cross at frame 86.5 on the starboard side of the compartment:

- 1 wooden 12-inch ruler. It is in very good condition, has no metal edge, and with serified numbers printed in black along the edge of one face. Down the center of the ruler is a scalloped motif such as shown in the drawing below. A v-notch, the purpose of which is unknown, has been cleanly cut into one end. No manufacturer or other marking is present.



v-notch cut in end of the ruler



scalloped motif printed on face of the ruler

### Findings

This odd assortment items, the functions of some of which (like the plastic diamond and the brass screws) remain a mystery, is difficult to categorize. Continued here is the presence of comestibles which appears to be related to debris from ship's visitors. Further, with the exception of the brass screws, this material is much more in tune with use of the space as a berth rather than a working shop. The dating of the changes in function of this space are not fully known. However, at the end of the ship's active life, it was used as a berth. The absence of saw blades, wood fasteners, and other wood-working tools, or the byproducts of a carpenter shop (like sawdust and wood chips) suggest that this function ceased long before the end of the ship's Navy period. However, the unusual character of the paper cup suggests an early date at least.

Although many of the artifacts remain undated, there are obvious Navy-period items. The most obvious is the stencil which certainly dates to between 1946 and 1948, based on the name of one of the ship's crew. Other possible navy items include the button, toothbrush, and matchbook. Nevertheless, from an operational perspective the point to be learned from this collection is that old, Navy period items have been preserved even where they have not been enclosed by some portion of the ship's structure but rather are not immediately visible because of their height.

## Introduction

This part of the documentation was begun with the hope that more of the materials from part 3 of the Brig passageway air vent could be retrieved from the trash (or "backdirt") boxes. These boxes were distributed through the Carpenters' Shop and the passageway outside of the Brig. They contain primarily dust and paint chips. However, loose items found by workers in the area generally could have also been tossed in. Only the tendency of individuals to reduce their steps to a minimum, prevented total mixture. Thus they could have received waste indiscriminately from different locations. Occasionally they could also be moved into the Brig itself.

Items retrieved from these boxes by Will Michels is included in the Brig Passageway report. Unfortunately, the boxes were moved following his recovery efforts. As a result the two most likely boxes still in use were selected to be sorted in detail by Crouch, and the other open boxes were saved for future examination. These two boxes were selected because of their proximity to the Brig and the subsequent likelihood that they were the receptacles for the materials from the Brig air vent. At the present time, only about a third of the backdirt has been sorted.

Provenance of the artifacts not identified by Will Michels, the original finder of the deposit, must be regarded as very tenuous.

We are already aware of three separate areas the contents of which were discarded into trash boxes. These are the length of a 6-inch high air duct which extended aft from the air vent over the Brig passageway (Collection Area E of the air trunk investigation, reported elsewhere), any deposit other than the artifacts in the Carpenters' Shop blower at frame 82 (Blower 1), and the deposits set aside by Will Michels from the air vent in the Brig passageway in front of cells 3 through 5. Thus assignment of items to one location or another is tenuous and based on the familiarity of individuals with the materials found by him. Because of the inability to recover lost provenience, at best the material described herein is likely to come from the Brig, the passageway outside the Brig, or the forward half of the Carpenters' Shop.

Artifacts

The artifacts were kept separate by the box from which they were collected.

Box 1

- 2 paper cups, red on white Coca-Cola (plus additional fragments)
- 5 small metal rivets
- 5+ chunks of deck paint
- 21 screws, nuts, bolts, threaded shafts, for their fragments
- 1 brass bezel
- 1 light switch turn
- 1 wood dowel fragment
- 1 wood board scrap
- 1 metal rod, tapered (part of a hinge or other piece of architecture?)
- 1 metal rod, non-tapered (part of something larger)
- 1 cut bone fragment, very gnawed by some rodent
- 1 circle of cardboard with a hole in the center, purpose unknown
- 1 paper tag fragment
- 1 candy bar wrapper fragment, Mars Snickers
- 2 ticket stubs, \$1.50 admission
- 1 string fragment
- 2 wood matchsticks (1 rectangular and 1 round in cross-section)
- 1 paper matchstick
- 1 chewing gum wrapper, Juicy Fruit
- 1 newspaper fragment with possible 1945 date
- 1 tightly rolled page from a book, subject material of the page is the Navy

Box 2

- 1 string fragment
- 1 candy bar wrapper fragment, purple print on clear paper; word "Hollywood" and Patent #2,157,410 present. This patent number was issued in 1939.
- 2 wood matchsticks (1 rectangular and 1 round in cross-section)
- 5+ pieces of deck paint
- 1 brass nut and screw fragment
- 1 unidentified paper item (looks like a paper towel)

One of the few items most directly related to the materials identified by Will Michels and only partially recovered by him, was a legal-size mimeographed form. The largest of these fragments were about an inch on their longest axis. The paper is yellow-brown and very brittle. The form itself

is customized to the ship (the word "TEXAS" is printed on it) and created by mimeograph. They include horizontal lines separated into columns by the use of colons. Some lettering is present. The only such piece (other than the ship designation just mentioned) contains the column headings "NAME" and "RATE." This fits well with the column heading "JOB NO." found by Michels, and suggests that this form was related to the assignment of job tasks.

Other paper collected as part of this group includes two cigarette papers, possibly from butts although no obvious charring is present. The final fragment is a printed form or tag. It includes only one corner and shows a single hole punch at the top, positioned as might be one of the two-hole punches that appear to have been so commonly used by the Navy aboard ship.

The final item is a printed piece of paper. It is small and thus its use is problematic. However, it does appear to be a part of a title and includes the words "ATLANTIC FLEET." It is not so dissimilar from the fragment recovered by Michels with the names of individuals (described in #3 above) that it could not have been part of the same document.

The only other items found include a small bit of string or thread and several paper fragments the associations of which are less secure than the paper fragments indicated above.

One item, the circle of cardboard is so generic in shape and material that it could be from any number of things. However, Frank A. Furney (Division 6) an ex-crewman visiting the ship on 19 April 1995, commented that during his period aboard (January 1942 to April 1943) the "chits" used instead of cash were of a similar material and in sizes ranging from that of a dime to a quarter. He did not remember them as having holes, even small holes. The nature of "chits" used in past years should be investigated. For the present, it remains possible that a form of "chit" was in use for which we have no examples, and that this is the remains of one.

#### Backdirt: Artifacts Collected from Backdirt Boxes

No artifacts have yet been recovered from the remaining trash (or "backdirt") boxes. These boxes will be sorted some time in the future.

Findings

The variety of material recovered by sorting through only two trash boxes is so great that some of this material must have come from locations other than the Brig passageway vent system. The metal fasteners fall particularly into the class of item that might be expected to be either on the deck or inside of a blower. The number of items that appear to be part of the ship's architecture is disturbing. This includes not only the light switch but also a bezel, metal rods, and a wide variety of fasteners.

While some items obviously are Commission and TPWD era in date, some are obviously earlier. This includes metal items such as the light switch turn and a newspaper fragment.

## Introduction

The following information about the ventilation associated with areas covered in this report was obtained only after the bulk of the report had been written. Time constraints prevented its full incorporation into the text of the preceding sections. However, it expands on the descriptions of blower and air vent functioning, and confirms the impression of recycling of the air in Blower 2 (tentatively identified as blower 34 below) with the additional information that it served to cool certain ammunition storage rooms by artificial refrigeration.

In General Information, U.S.S. "TEXAS", Part III, Tests of Electrical Auxiliaries, "Ship Tests of Fans and Motors" each of the ventilation systems was tested for electric requirements against performance. Part II of that same volume describes what it calls the "Electrical Auxiliaries." Part I is a general description. The following information is compiled from these sources. The reader should note that in older documents the 2nd deck is often referred to as the "gun" deck while the 3rd is the "berth" deck. Although not dated, this publication appears to have been printed before the ship was delivered and thus might date to about 1912.

The following introduction is taken from General Information, U.S.S. "TEXAS"; section I, page 64.

On this vessel artificial ventilation is provided, where considered necessary, for the compartments below the main deck. The systems are operated by electrically driven fans.

The officers' and crew's quarters are heated by the ventilation systems, the air passing over steam coils located in the mains. The flow of air in the heater boxes is controlled by dampers in the boxes. There is a clear opening through the center of the box at least equal in size to the ventilation duct. The damper is fitted at one end of this opening, and when closed, forces the air over the coils.

All powder and fixed ammunition rooms, except the saluting powder magazine, are provided with both refrigeration and artificial ventilation.. [sic] The shell rooms are ventilation by the regular hull ventilation systems only.

Cork insulation has been fitted on this ship in place of ventilated air casings. The powder rooms are lagged throughout with cork slabs, the walking spaces being protected by linoleum.

The supply mains and branches to the powder magazines are lagged with 2" hair felt and the return mains and branches with 1"

hair felt. The felt is wrapped with wire and then covered with canvas. All pipes passing through these compartments are lagged.

The coil boxes on the magazine refrigeration systems are lagged on the outside with 3" cork covered with 2 1/2 lb. plating.

Each of the ventilation systems is numbered to a total of 46. Only 28, 32, 34, and 36 are associated with the area under study. System 30 is included because of its proximity to these, although the nature of their relationship is not well understood. The following is provided because it is the best description available. The reader is admonished to remember that in spite of the remarkable continuity between the ventilation systems as presently understood and the ship's early blueprints, this description dates to approximately 1912 and changes have been made.

#### Ventilation System 28

System 28 (motor 26 on feeder P48-1P48 on the After Distribution Board – see General Information, U.S.S. "TEXAS"; II, page 7) ventilated the portside passages between frames 47 and 77 on the 3rd deck and upper platform, as well as the Dynamo and Evaporator Rooms. Its supply blower is located in the Blower Room immediately forward of the entrance to the Master-at-Arms Berth. More specifically, it is at frames 77-78. It is important because it draws its fresh air from the line above the Brig passageway and above cell 4. (General Information, U.S.S. "TEXAS"; I, page 64; III, page 57)

The following is from General Information, U.S.S. "TEXAS"; section I, pages 70-71.

Fans Nos. 27 and 28 ventilate the passages on the berth deck between frames 47-76 starboard and port, the wiring passage on the upper platform between frames 47-77, the evaporator room, the distribution board room aft, and the dynamo and dynamo condenser rooms aft.

Natural exhaust ducts, leading up inside the boiler hatch casings to the gun deck level, are provided for each sub-division of the wiring passage on the upper platform. A natural exhaust duct, discharging into the after dynamo room trunk at the gun deck level, is also provided for the distribution board room.

The heated air in the after dynamo and dynamo condenser rooms is discharged into the open through the dynamo room trunk.

Fresh air is supplied to these fans through 36" mushroom ventilators on the main deck between frames 81-82, port and starboard. These ventilators also supply air to fans Nos. 32 and 33.

The supply trunks to the fans are fitted with wire mesh and with doors between the gun and main decks. The latter are for use in wet weather and in action when the ventilators on the main deck are closed.

The supply trunks are divided below the gun deck, the forward trunks supplying fans Nos. 27 and 28 and the after trunks supplying fans Nos. 32 and 33. The supply of air in these trunks is controlled by dampers.

The damper for system No. 28 is located in the supply main between frames 79-80, port.

### Ventilation System 30

System 30 (motor 28 on feeder P56-1P56 on the After Distribution Board – see General Information, U.S.S. "TEXAS"; II, page 7) is included here because of its close association with the other systems which have been tied with the Brig-Carpenters' Shop area. However, its blower has not been located and may no longer exist. It was on the portside of 3rd deck in the Dynamo Room Hatch. Its small capacity exhaust blower is located at frames 81-82. It ventilates the Evaporator Room. It appears to have had an inlet duct of only about one half foot square. (General Information, U.S.S. "TEXAS"; I, page 64; III, page 58)

The following is from General Information, U.S.S. "TEXAS"; section I, page 71.

In order to facilitate the circulation of air in the evaporator room and the after dynamo room trunk, fans Nos. 29 and 30 are installed in the trunk. These fans exhaust the air from the evaporator room and discharge it into the dynamo room trunk.

The fans, together with their foundations, are made portable so that the trunk can be kept clear for handling machinery.

### Ventilation System 32

System 32 (motor 30 on feeder P48-1P48 on the After Distribution Board – see General Information, U.S.S. "TEXAS"; II, page 7) ventilated the portside Steam Pipe Passage (compartment B-24-P). It is built around a supply blower on Third Deck, frames 83-84, and has been designated as "Blower 1" for

purposes of this report. (General Information, U.S.S. "TEXAS"; I, page 64; III, pages 58-59) The supply trunks to the System 32 fan is like those to 28.

The following is from General Information, U.S.S. "TEXAS"; section I, page 71.

Fans Nos. 32 and 33 ventilate the steam pipe passages on the upper platform between frames 76-90<sup>1/2</sup>, port and starboard.

Exhaust ducts are fitted at the ends of these passages to carry off the heated air. These ducts discharge into the boiler and engine hatch casings at frames 76<sup>1/2</sup>-91<sup>1/2</sup>, port and starboard, and are lagged to prevent the transmission of heat to the quarters on the berth deck. The leads of the exhaust ducts at frame 91<sup>1/2</sup> will probably be altered by the change to be made in the engine hatches by the Government.

Holes, 3" in diameter, are cut in the transverse bulkheads in the steam pipe passages to prevent the collection of heated air under the protective deck.

The dampers for systems Nos. 32 and 33 are located in the supply mains between frames 82-83, port and starboard.

#### Ventilation System 34

System 34 (motor 32 on feeder P52 on the After Distribution Board – see General Information, U.S.S. "TEXAS"; II, page 7) is also called the "Amidship Magazine Refrigeration System" is built around a blower on 3rd deck, frames 86-87. It has also been designated for purpose of this report Blower 2 in the Carpenters' Shop. It is a type "K-7, Open" and as a "Closed" blower. (General Information; U.S.S. "TEXAS", I, page 64; III, page 59)

The following is from General Information, U.S.S. "TEXAS"; section I, pages 71-72.

Fan No. 34 ventilates the powder rooms and fixed ammunition magazines amidships, the system being designed for 5000 cu. ft. per minute and the fan run at reduced speed.

Two sets of ducts, one for supplying air to the magazines and the other for exhausting air from these compartments, are provided. A coil box ins installed in the supply main to the magazines at the discharge outlet of the fan.

The exhaust main from the magazines connects with the supply trunk to the fan from the open, and with the striking down hatch between frames 88-89 on the port side. A shutter is fitted in the return main at its intersection with the striking down trunk. This shutter controls the flow of air in the return main.

This system operates on both the closed and open systems. A supply trunk, with a 27" mushroom ventilator, is installed for fan No. 34 between frames 87-88 port. A shutter is fitted in this trunk above the fan connection.

When operating on the refrigeration system the shutters in the supply trunk and the exhaust main are closed to the open and the air circulates through the magazines and the coil box.

When operating on the open system the shutters in the supply trunk to fan and the exhaust main are opened, the latter closing the connection between the return main and the fan. Fresh air is then drawn in from the open and distributed to the magazines, the air from these compartments discharging into the striking down hatch.

The discussion of System No. 19 (Magazine Refrigeration Forward, pages 68-69) contains more information about the operation of this refrigeration system. A portion of that description follows.

When operating on the refrigeration or closed system the shutters in the exhaust main are both closed to the open. The air is drawn from the powder rooms by the fan and passes over the coils in the cooling box before returning to the magazine. These coils are filled with CO<sub>2</sub>, which is supplied from the forward ice machine room.

When it is desired to change the air in the closed system the shutters in the return main near the fan and in the exhaust trunk above the half deck are opened. The fan then takes the air from the blower room A-111 and, after passing through the powder rooms, it is discharged into the open through the 24" mushroom ventilator. The shutter in the return main near the fan is so arranged that, when opened to the blower room, it closes the connection between the return main and the fan. The supply branches in the powder room have the terminals, which are as few as practicable for the proper distribution of air, located in the upper part of the rooms under the beams. The exhaust ducts in the powder rooms have numerous branches, which are located behind the stowage around the sides of the compartments with the terminals about 12" above the cork insulation on the deck. This arrangement gives the best circulation of air in the compartments.

Regitherms are installed in the powder rooms and connected with dampers in the supply ducts. The regitherms are set for the required temperature and have a range from closed to wide open of 20 degrees Fahrenheit.

The supply ducts are fitted with McCreery adjustable terminals, and the exhaust ducts with fixed bell mouthed terminals.

Ventilation System 36

System 36 (at frames 92-93; motor 34 on feeder P58-1P58 on the After Distribution Board – see General Information, U.S.S. "TEXAS"; II, page 7) ventilated portside quarters and the 2nd and 3rd decks from frames 81 to 104. It incorporates heater coils which condition the air for cold weather. Its supply blower is located in the port-aft corner of the Carpenters' Shop. It is of interest not only because artifacts were found lying on top of its vent lines, but also because it is the system which serves the Brig and Master-at-Arms Berth. (General Information, U.S.S. "TEXAS"; I, page 65; III, page 60)

The following is from General Information, U.S.S. "TEXAS"; section I, page 72.

Fans Nos. 36 and 37 ventilate the store rooms, prison space and quarters on the berth deck between frames 76-104, and the offices operating room, dispensary and quarters on the gun deck between frames 81-104. Fan No. 36 also has one terminal in the ice machine room on the berth deck.

These systems are divided into two sets of mains, one for the spaces on the berth deck and the other for the spaces on the gun deck. Heater boxes are installed in the mains on the berth deck near the fans and above the gun deck, the spaces on the berth and gun decks requiring different degrees of heat.

Air is supplied to the fans through trunks connected with hatches on the main deck between frames 91-92, port and starboard. Five sliding shutters are fitted in the forward side of the horizontal section of each trunk on the gun deck for use when the hatches are closed.

Each of the areas reported here is sufficiently different one from another so that making general statements that apply equally to all is difficult. Thus the following summary necessarily avoids many important issues. The reader is referred to the preceding individual discussions to best understand the findings in detail and the evidence behind them.

### Artifacts and "Deposits"

An inescapable conclusion of the work reported here is that original historic deposits and/or artifacts exist virtually everywhere including locations that have been swept, "collected," or otherwise attended. In the Brig, Carpenters' shop, and connecting passageway, they have been found in the open (on overhead frames and vents), inside visible structures (lockers, air ducts, and blower boxes), and in hidden places (such as the crevice between the hull and shelf in cell 1).

Most of the artifacts came from enclosed spaces which had over time provided them some protection. In some cases (such as newspaper) more damage was done as a result of their discovery and removal from their guarded condition, than had been done over perhaps their entire period aboard ship. Most exposed material is post-Navy, and most are probably from visitors to the ship. Separation of TPWD from Commission era litter is difficult, but most is regarded as Commission era largely because of the greater amount of time (about 35 years) and the freer access available then.

Until the collection is more completely evaluated, it is not possible to quantify the number of items found although it will be in the hundreds if not thousands. The ship's ventilation system is the largest location of deposits. In this investigation, the largest amount of deposit (in sheer bulk) is in the air trunk above cell 4. It includes dust, hair, lint, rust scale, dropped and lost items, deliberately placed items, paper items, wood and iron, cloth, leather, and rubber. In spite of what was removed, most of what was found was left in place. Certainly the most provocative is the Brig prisoners' contraband, found in the "dead air space" above cell 4. This collection is well preserved, and dates to the last decade and a half of Navy incarceration here.

Most of the artifacts are associated with accompanying "matrix." As used here, this includes not only the major artifacts, but also pieces of items, dust, rust, and other accumulation. This kind of build-up is present in all locations

examined with the possible exception of the open areas where items were found loose in the Carpenters' Shop, and the "dead air space" above cell 4. The explanation for its absence seems to lie in the former being open to cleaning in the past (the tops of the vents, for example), and in the latter being sealed against entry and remaining in stasis. It is expected that such situations will remain a minority and that the presence of deposit will be continue to be the rule and not an exception.

Deposits in the air ventilation system are a curious mixture of the typical and the exotic. They are typical because it is expected that every vent trunk in the system will have some amount of historic accumulation. Unless some unusual discoveries are made, this will total more than probably all the other new findings that can be made on the ship. By its sheer quantity, this then is "typical" for the ship. On the other hand, it is exotic because the conditions inside the air vents are themselves unlike those outside that closed system and those experienced by the visitor. That is, the deposits would include large amounts of deposit of a type that would not be expected elsewhere. Although here as in many other locations, rust and rust scale are present along with introduced artifacts, the air vents also contain air-borne lint. This lint in many ways is comparable to the accumulation inside a vacuum cleaner bag. This light artifact fraction is normally not well preserved because of its high organic content and fragility. In this sense then, such deposits are very unusual. Only in a sealed special function system would such remains accumulate and be preserved.

Outside of the air vents, Commission and TPWD-era artifacts predominate. This primarily takes the form of paper drink cups and snack wrappers. The need to finish this report did not allow for the research to get accurate dates for many items. Nevertheless, when that research is done, it is expected that most will date to the three decades following the ship's becoming a monument.

As the ship is more fully explored and restored, other pockets will be found. It is just a matter of time.

### Stratigraphy and Provenience

The artifacts and deposits with little exception have locational integrity. That is, the position in which they were found bears a direct relationship with the position in which they were last handled by their end-users. As a result, they

have importance not only as individual specimens, but as collections with provenance. When fully studied, they reveal more about the history of the ship and the lives of the men who served aboard her than they would as individual items: "the whole is greater than the sum of the parts."

This locational integrity exists within a single collection area as well as between one area and another. This is the case both in vertical as well as horizontal dimensions. Horizontal integrity is expected where no outside influence has been present to move things from one place to another. More surprising is the presence of vertical integrity. Where artifacts are present in sufficient numbers, they lie one atop another (as in the "dead air space"). In the case of the air trunk over cell 4, objects are interleaved and embedded with other materials. Here dust, "felt", soda, abrasive grit, paint flakes, and rust scale (both large and small) form part of the deposit. Such build-up was completely unanticipated and adds to the potential to yield additional information. For example, the contraband items in the "dead air space" were intentionally placed into the small sealed space from which they were recovered. Because of the way in which they were collected it is also possible to determine the cell from which each item came, what opening was used, and to a degree, in what order.

This kind of detail is not always possible. It is not always possible to determine where an artifact originated. For example, was a chewing gum wrapper in the air trunk above cell 4 dropped through the iron decking grate of 2nd Deck, or through the air vent opening on the Main Deck?

Most artifacts appear to have been discards, although there is variation in the deliberation that went into this discard. A few items may have been accidentally dropped. Examples are the chipping hammer (Collection Unit A.1) and the cloth of Collection Unit E, both in the air trunk over cell 4.

Most of the artifacts are general refuse; there was no intention that they be retrieved. However, a few things are so deliberately placed that their owners may have been planning to retrieve them. The best example is the "bundle of wire" in Collection Area G of the air trunk. Another possible example is the book rolled into a cylinder and pushed into the dead air space. Most of the contents here are simple litter. However, this book is rolled and secured with such care as to suggest that its original owner intended better for it than a half century of hibernation.

Dating

The most important question regarding dating of artifacts and deposits is distinguishing what is of the military period of the ship's history (the Navy had the ship until 1948), and what is of the civilian period (the Battleship Commission operated the ship from 1948 to 1983; this Department has operated it since then). If our understanding is correct, virtually all items found in cells 2 and 3 are post-Navy and probably from the TPWD era. Similar items, usually paper drink cups, are also found in the air trunk above cell 4 (Areas A, D, and E), in Blower 2, and in Blower 1. Their greatest value at this point is as a reasonably reliable time marker for the post-Navy period. However, the Navy also used paper cups, most notably at the gedunk. Therefore this assumption that a paper cup is post-Navy needs to be constantly questioned until the range of paper cups used by the Navy (or brought aboard during her tenure) can be determined.

At present the best definition of military period deposits still relies on our ability to place a date or date range on individual "diagnostic" items, such as Orbit chewing gum or Lucky Strike green cigarette packages. However, enough Navy period artifacts have been found in the lower strata of the air trunk over cell 4 to date that layer as a whole. Using this knowledge, it is possible to date that portion of the layer which was not removed, and tentatively to apply that date to similar layers where found in other such ventilation ducts. Even artifacts which are not readily dateable in themselves, can be dated by their association with such a layer. This ability adds to the importance of locating and correctly interpreting the layers of deposit wherever they occur.

Relying only on dateable artifacts, the time depth of the Navy era deposits is the most surprising aspect of this assemblage. At present, January 1933 is the earliest confirmed date on any single item (a magazine in the dead air space). With study, more dates will be available although none will likely be as precise as this. What is surprising is that for fifteen years after this magazine came aboard and became refuse, it remained unmolested in spite of the Navy's well-deserved reputation for shipboard cleanliness. This was not because of any malingering or sloppiness by the crew; this item was protected by being either inconspicuous or inaccessible. This will certainly not be the only time that such conditions will be found to exist aboard. It is important is that this potential be recognized.

No concerted study has been made of these collections and minimal effort was put into dating items. Yet the issue of dating is more than just attaching an age to a single object; it is important to understanding the evolution of the ship. Our chronology of changes to the ship's architecture (particularly when specific details are addressed) is very incomplete. Dateable deposits can be of great help in this regard. For example, the relationship between dateable items (and their stratified deposits) inside the ductwork, can be invaluable to dating both formal and informal changes in this system and by extension to related structures. In the case of the Brig, we have little on which to date the modifications that resulted in a possible reduction in the height of cell 4 (although vestigial evidence of an earlier structural conformation is present inside the trunk). With study, these may tie to the dates derived from the contents of the trunk itself. Another subject that may benefit from such study is the informal modifications made to the ventilation system by crewmen seeking some comfort.

### Closing

In summary, the collection made as a result of this effort dates to the period between the early 1930s and (virtually) the present. Its importance is great. There is evidence of contraband being taken into the Brig, contraband that by its nature is also a valuable sample of the commercial consumables and reading material available aboard ship. The deposits in the air ventilation system are important for dating system installation and architectural modifications, for dating the informal ventilation system modifications, and for identifying the assemblage of material culture not only available to, but also used by the crew.

There is a vernacular element to the air ducting that must also be recognized. Informal openings into air vents cut by the crew without official sanction are an important part of the history of the ship as well as being a possible source of introduction of artifacts into the vents. These are evidence of the desire by the crew to take control of their own environment. Artifacts associated with these openings may also help identify their date and associations.

The implications of these findings present recovery and curatorial challenges. One of the surprising findings is the variety of materials that have been recovered. It includes cloth, wood, paper, iron, plastic, brass, leather, rubber, vegetation (tobacco), and food. Such variety and in such quantities will add to

the demands already placed on curatorial staff. Many items are extremely fragile. The newspapers found in the air trunk over cell 4 are good examples.

Finally, there is currently no office aboard ship other than Curatorial in a better position to assume overall responsibility for preserving and acquiring the artifacts and deposits. Carrying out such a mandate would put new requirements on the Curatorial personnel. Seeing that this is done correctly will require learning or at least understanding new techniques, and familiarity with the laws which might pertain to such acquisition. These subjects are outside of traditional museum curation.



## 1. Finding an approach to dealing with these resources

It is apparent that additional cultural deposits will be found in other parts of the ship. Indeed, large deposits (specifically those in the ventilation system) were discovered but left in place because of the limited resources available for their recovery. Yet in the long term such materials need to be completely and carefully collected.

In the past, the curatorial staff received artifacts which were brought to them, discarding some and keeping the rest. A most extensive and systematic collection was done in anticipation of moving BB35 to drydock in 1988. This has boosted the collections with many important items. Yet neither approach, the first haphazard and the second short-term, is adequate. This effort should be improved. One way is to expand shipboard collection by putting on a programmatic basis, setting out a mission and acquiring the resources to complete it. Unfortunately, resources are not available for a program of recovery independent of ship's repair and restoration. Nevertheless, it can be done as needed in accordance with specific repair, restoration, or other projects. This is essentially what was done in the effort documented in this report.

Such collection should be done with the greatest care; it should be thorough, and controlled. Techniques should insure the recording of locational information as materials are gathered, and in greater detail than has been customary in the past. Similarly "matrix", and other materials not generally considered "artifacts" (that is, they do not have a singular aspect and clear identity) need to be given the same respect as the identifiable objects. Finally, without sufficient care during collection, the more delicate items would not survive the process itself. If poorly handled, collection can be more destructive than leaving everything in place.

Areas not fully documented here include the unexamined air trunks and blowers, the air trunk over cell 4, Blower 2, and the second "dead air space". This was done because of time and other constraints. Although such preservation in place is better than the available alternatives, in the long run, this is an unsatisfactory solution for two reasons. First, the construction program is left incomplete. This problem has been recognized for some time as one side of a bulkhead is restored while the opposite side is left in its original condition. Second, artifacts and deposits are at serious risk if left in place. Uncontrolled collection, pilferage, and vandalism are endemic at the Battleship. The longer anything is left in place, the more likely is its thoughtless destruction.

Although this cannot be done independently, it can (and must) become a customary part of these other programs. In the case of the Brig-Carpenters' Shop

area, documentation began after welding and paint removal had started. In the future, this process should begin earlier.

Such investigation is not a simple and straightforward process. Careful examination of a space often leads to findings which are not readily apparent before the examination began. Such was very much the case here; just as the project appeared about to end, something new was found. Although the lessons learned this time will lessen the likelihood of so many surprises in the future, sometimes the effort needed to adequately document a space cannot be accurately predicted until that process is well along.

Documentation begun well before construction plans are finalized can also benefit project planning. In the course of this project, much was learned about the space that had implications for the construction itself. (These discoveries also significantly added to the task of documentation.) Much may be learned of use in estimating construction costs and time, and to writing work orders and specifications. For these reasons, it might be best started in at least a preliminary way, as soon as an area is considered for work.

Finally, the documentation process should not end when construction begins. Instead, because of the way that the construction opens new and formerly inaccessible areas, it should continue until all possibilities are checked.

## **2. Providing additional curatorial support**

The collection process can be undertaken either by TPWD staff or by specialists brought in from outside. In either case, the office of the ship's Curator is currently situated to have a key role in future such projects. If specialists are used, the curatorial staff should be made familiar with the proper techniques so as to provide oversight and coordination. This will require staff training.

If dealing with these resources is to be an in-house effort, even more demands will be placed on the curatorial staff. This can be a very time-intensive process in addition to one requiring special skills. It should be regarded as a major undertaking.

In either case, these materials will need to be curated after acquisition. Collections of this nature are not typical of those now in the hands of the Curatorial staff at the Battleship presently. At least initially, the Department's Head Curator working with the Department's internal cultural resource protection staff may be able to provide guidance to the handling of such collections.

### 3. Realizing maximum benefit from the collection

The collection of deposits and artifacts expands our understanding of the ship. Forms used aboard BB35 reveal something of the her bureaucracy. The ship's newspapers and daily schedules tell the happenings of the day. Candy wrappers and cigarette packs tell of personal preferences and the access of the crew to commercial products. These are things that bring humanity to the ship and can help reveal the lives of the crew to our visitors; that is, they have interpretive potential.

Two problems afflict this potential. The first is the absence of a badly needed on-shore interpretive facility. (Combining this with the current absence of good artifact storage and an accelerated rate of growth of the collections, the need for a large and permanent multi-function facility is all the more imperative.) As already stated, the second is how not to alert vandals to the presence of this resource. This site has a continuing problem protecting its cultural resources. Unless done correctly, interpretation may further their destruction.

### 4. Meeting possible Departmental and outside reporting requirements

At present, the Department operates the Battleship under an Antiquities Permit. An Historic Structures Report was provided to the Texas Antiquities Committee in 1993 in accordance with this Permit. The Report notes the attempt by the curatorial crew to collect and protect artifacts found on the ship (p. 47) and acknowledges its "cultural resource" content (p. 63). This newly discovered Brig material is both cultural resource and a part of the ship's collections. As such it probably may need to be reported.

Two pieces of legislation protecting cultural resources are mentioned in the Department's Environmental Policy statement (p. 7). These are mentioned again in more detail in Appendix B ("Cultural Resources on TPWD Lands", pages 8 through 10). Artifacts and deposits such as found in the Brig are protected by law and by Department Policy. Actions which disturb them without adequate efforts at either preservation or controlled collection and documentation are violations of Departmental Policy, and carry criminal penalties. These laws should be heeded and applied.

### 5. Protecting the resource

In the Brig, every air duct investigated has been found to contain something. Similar ducts are present throughout the ship. Some ducts hold so much that it constitutes a thick, layered deposit. It can only be concluded that the presence of

historic deposits and artifacts is the rule rather than the exception. Every duct should be considered to hold deposits.

Other historic material, either in hidden locations or just not previously noticed, will be found. There are two problems in managing these cultural resources. The first is to institute and continue an adequate program of documentation. The second, and perhaps more difficult, is to protect by curtailing the depredation to which such resources have been subject in the past. Increased vigilance should be combined with application of the severest sanctions against those who violate Departmental policy (and the law) with regard to cultural resources.

Although not a part of the furnishings study as such, examination of the interior of the air trunk above cell 2 revealed hidden evidence of the earlier configuration of the Brig and subsequent change(s). Some of these will disappear in future restoration as wasted metal is cut out and de-scaling equipment rides over now fragile features. To some degree this has always been a problem with for example, painted signage removed to be able to stabilize the rust underneath. In recent years two well-trained people have been on hand to study, record, and evaluate. Now that only one such person is present, that initiative cannot be expected continue at its former pace. However, not only are rich and historic deposits threatened by the restoration process, so too are architectural features that reflect on the history of the ship.

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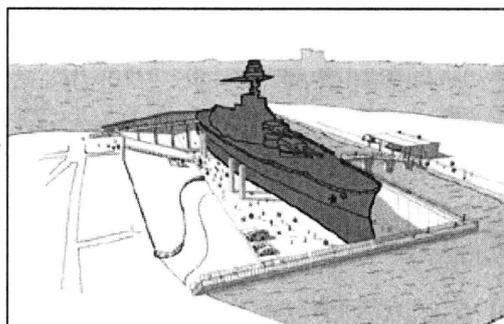


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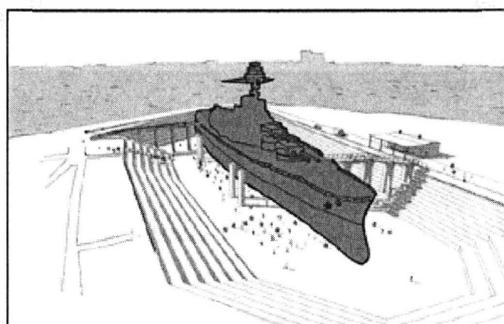
Dry-Berth Project Rationale

The economic rationale for a dry berth is to avoid the cost of periodically placing the Texas in drydock to repair and maintain the ship below the waterline. (The U. S. Navy rehabilitates active-duty ships in drydock at least every 8-10 years.) The Texas was last dry-docked in 1988-90 at a cost of over \$15 million. During that time in drydock, only 15-20% of her underwater hull plating was replaced. Rather than spend in excess of \$15 million (of Texas taxpayer money) every 15 or 20 years to patch the hull, TPWD searched for a more cost-effective alternative. Starting in the mid-1990s, several "Master Plans", both for the ship and for the Battleground, were proposed and discussed. More information on the "Master Plan" is presented below.

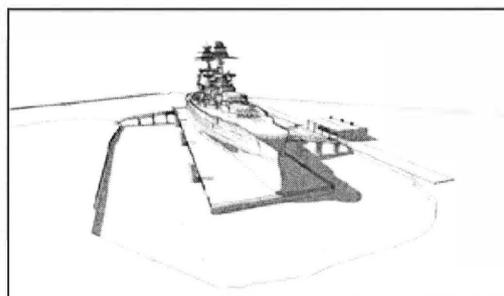
Below are various dry berthing designs.



Since returning from the 1988-90 dry docking, the Texas has been back at the San Jacinto Battleground State Historical Park, sitting in brackish water (not fresh water, but lower salt content than sea water). Steel and water are not a good combination. Independent maritime engineering surveys of the ship have been conducted from time to time to assess the ship's condition. The most recent survey was completed in February 2008.



The inescapable fact is that the outer hull plating is now so thin that there is real danger that the Texas could suffer a hull breach, take on water and sink if she had to be towed. She has several active "seepage"-type leaks that are kept in check by monitored submersible pumps. As recently as May 2008, she suffered a significant hull breach that placed her in jeopardy of sinking. Trim Tank D-12 is a compartment directly below the After Steering space and there is an active 4-5 gallon per hour "seepage"-type leak in that compartment. Without warning, the leak rate increased to over 40 gallons *per minute*, in excess of the capacity of the pump in the space. Fortunately, a team of divers were at the ship that day conducting training. A diver was sent down, in scuba gear, to locate the breach by feeling along the hull for the suction that identified the hole. As the diver was feeling for the hole, her hand *pushed through the paper-thin hull plating* causing the water influx to increase to an estimated 200 gallons *per minute*. Fortunately, the dive team placed a temporary patch on the breach and additional portable pumps were brought in to pump the water out.



This incident is only the most recent and the most dramatic of the problems below the waterline. Maintenance and restoration efforts have focused on getting publically-viewable spaces in condition to be seen by visitors. Maintenance and restoration funds are always in short supply and, over the last sixty years, care and attention that should have been focused on keeping the ship in a secure floating condition were, instead, focused on publically-viewable spaces. The result is that, below the waterline, particularly in the after half of the ship, the Texas is *not watertight and her internal bulkheads will not prevent her from sinking in the event of another major hull breach.*

Both the U. S. Coast Guard and officials at the Port of Houston have

expressed grave concern that any attempt to move the Texas might result in the ship sinking in the Houston Ship Channel. If that were to occur, the adverse economic impact to the maritime traffic in the second-largest port in the United States could be disastrous.

There is not a dry dock in the Houston-Galveston area large enough to accommodate the Texas. The dry dock used by the Texas in 1988-90 is no longer available. Although dry docks of sufficient capacity exist in New Orleans, Mobile and Tampa, an open-ocean tow to reach one of them, given the ship's condition, is out of the question.

Even if it were physically possible to get the Texas into a dry dock, that does not solve the problem. The problem gets solved when the ship is permanently removed from the water.

After many years of evaluating a wide range of alternative plans to address the ship's problems (as well as other issues at San Jacinto), TPWD, working with many of the stakeholders at the San Jacinto Battleground State Historical Park, adopted a "Master Plan" that called for placing the Texas into a permanent dry berth. It must be emphasized at this point that all parties that are partners with TPWD at San Jacinto, including the San Jacinto Historical Advisory Board, the San Jacinto Museum of History, BTF, the San Jacinto Battleground Association (aka The Friends of the San Jacinto Battleground), Daughters of the Republic of Texas, Sons of the Republic of Texas, and others, had input into the "Master Plan". After the "Master Plan" was formally adopted by TPWD in 2004, the Legislature was approached to secure appropriate funding. The Legislature allowed the voters of Texas to express their opinion and, in November 2007, the voters approved Proposition 4 which authorized the issuance of \$25 million in bonds to fund the cost of placing the Texas into a permanent dry berth.

One of the provisions of the bond legislation is that BTF raise \$4 million in private funds to supplement the \$25 million in bond funds. This will provide a total of \$29 million to accomplish the goal.

With this vote-of-confidence in place, BTF contracted with an independent maritime engineering firm to make a survey of the ship to determine her condition. After all, if the ship is not structurally sound enough to support herself when permanently resting on keel blocks, then the question of dry berthing would be moot. Fortunately, the report reflects that, although her hull leaks, her keel and main supporting internal structure is sufficiently strong to support the weight of the ship in a dry berth. Throughout the evaluation process, BTF has worked cooperatively with TPWD to ensure that the overall plan for preserving, restoring and presenting the ship meets TPWD's goals.

Once it was determined that dry-berthing was physically possible for the ship, it was necessary to make a preliminary evaluation of the engineering-viable ways in which dry-berthing could actually be accomplished. Again, an independent maritime engineering firm was contracted to study the full range of dry-berth alternatives and to present a report of their findings to BTF and to TPWD.

TPWD, acting on the report of the ship's condition, and on the report of the engineering-viable dry-berth alternatives, and on their internal studies and reports, prepared a progress report which they presented to the Legislative Budget Board (LBB) in late July 2008. The LBB must agree that progress has, indeed, been made in accordance with the Proposition 4 enabling legislation, in order to direct that the bond funds

be released. As this is being written, the LBB has not yet acted.

So the financial choice is stark – spend at least \$15 million every 15 to 20 years to patch the ship (and never be sure it’s “enough”) or spend a *maximum* of \$29 million, just once, to permanently solve the problem.

What would be the advantages of having the Texas dry-berthed instead of being relocated?

That question indicates a misunderstanding of the issue. The issue is not: dry-berth verses relocate. Mere relocation, even if possible, does not solve the core problem. To be properly preserved, she must be removed from the water. And relocation, without subsequent dry-berthing, only moves the problem; it doesn’t solve the problem. Any relocation of the ship is an additional cost to the taxpayers of Texas. (see #2, above). In November 2007, the voters of Texas approved \$25 million in bonds for the specific purpose of dry-berthing the Texas right where she is. Relocation, beyond the two mile limit stated by the independent maritime engineers, places her at grave risk of a hull breach and, possibly, sinking. None of us want that. Dry-berthing the Texas where she has been for over sixty years will allow her to be properly displayed for the first time since she was built.

What is the timeline for construction of a dry berth?

Once the LBB authorizes the issuance of the \$25 million in bonds, TPWD will solicit its own engineering study of the economic cost estimates for a narrow range of dry-berth alternatives. An environmental evaluation of the site will then be conducted; it could take as long as a year to complete that evaluation. Assuming no issues are encountered, TPWD will enter into a construction contract with a private firm to physically construct the agree-upon dry-berth; construction time has been estimated at 14 to 18 months. Starting from a September 1, 2008 “kick-off” date, if bond funds are received by late October or early November, the engineering work could be completed by March or April of 2009; environmental assessment could be completed by April of 2010; construction could be completed by June through October of 2011. That optimistic schedule would place the Texas in a permanent dry berth in time to celebrate the Centennial of her launching (May 18, 1912 – May 18, 2012).

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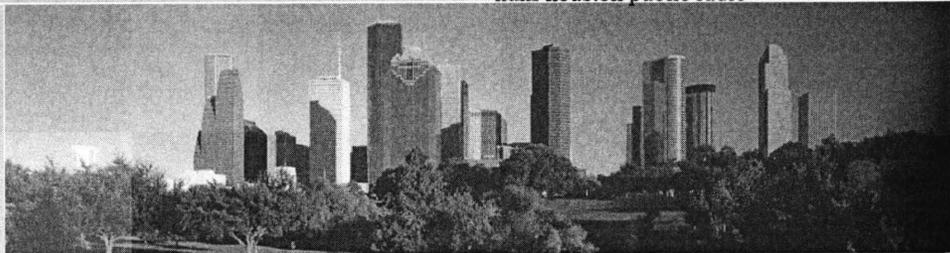
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## Battleship Texas Update

August 3, 2009

by: Jim Bell



**The retired Battleship Texas will finally get the makeover it's needed for years. The state now has the money, and work that will save the old battle wagon for future generations will be completed over the next three to four years. Jim Bell has an update.**

Texas voters passed a 25 million dollar bond issue last year to pay for sprucing up the historic Battleship Texas, and building a dry berth that will get her out of the water and extend her life by many years. With four million dollars in donations raised by the Battleship Texas Foundation, the Texas Parks and Wildlife Department has a total of 29 million dollars for this work. Battleship manager Andy Smith says the bonds have been sold and they have the green light to get this project off square one.

*"The first stage of that money being spent is going to go into engineering surveys, with the need for us to put out what's called an RFQ, a Request for Qualifications, to see which and who can be qualified to do a project like this."*

Smith says they hope to have an engineering firm hired by the fall. They already know it's possible to build a dry berth under and around the ship. More important, they know the ship can stand being taken out of the water, because she's in remarkable shape for a ship that's nearly a hundred years old.

*"The ship is in very good condition overall, it was well built. Our problems are on the surface, if you will. The actual hull leaks but the structure of the ship could support a dry berthing for an extended period of time."*

Smith says with the legislative and funding hurdles cleared, the pace of the project will pick up. First comes a period of public input, because the USS Texas is a historical artifact, the last survivor of that early 20th century generation of warships known as dreadnoughts. She's the last one. She's also in a historical park that's a wetlands area, which requires an environmental impact study. These steps can take up to two years before actual work begins, but once it does start, Smith says the work can be finished in 18 months to two years. What, exactly, will the public see?

*"The initial concepts, if you will, are all a berth in place, and when I say a "berth", basically imagine all the water drained away from the ship and it's sitting basically where it is, basically at the same level it is, and now instead of floating, it is actually on blocks."*

Smith says if the project stays on or close to this flexible schedule, the spruced up Battleship Texas will be parked in her dry berth, high and dry, and ready for the public by 2014, which will be the 100th anniversary of her commissioning. Jim Bell, KUHF, Houston Public Radio News.

For more information about the Battleship Texas State Historic Site, visit the TPWD website.

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## RELOCATING THE BATTLESHIP *TEXAS*: AN ISSUE WORTH CONSIDERING?

### SUMMARY of the Report from the Friends of the San Jacinto Battleground July 28, 2008

**Site of Texas Independence:** The San Jacinto Battleground is where Texas won its independence from Mexico on April 21, 1836. Historians consider San Jacinto one of the most significant battles in modern history because of its resulting political, cultural, and economic impact on the United States and Mexico. The Battleship *Texas* was moored at the San Jacinto Battleground in 1948.

**National Landmarks:** In 1960, the San Jacinto Battlefield was designated a National Historic Landmark. The designation was awarded because the landscape preserved the site of the battle. The National Park Service nomination noted, "*U.S.S. Texas and other monuments. . . do not contribute to the historic significance of the landmark.*" The *Texas* became a National Historic Landmark in 1977, but its designation applied only to the ship, not its site. The historic status of the San Jacinto Battlefield is solely the result of its location, but the ship will retain its landmark designation regardless of its location.

**Purpose of this report:** Confusion and misinformation have resulted when a proposed suggestion to move the *Texas* to Galveston was publicized. This report is intended to help Texans understand what the Friends of the San Jacinto Battleground propose, and why.

**Why was the Ship brought to San Jacinto?** In 1948 the ship was moored at the only state park on navigable water. A berth was dug from the battlefield where the Texas Army camped. The ship, transferred to the Texas Parks and Wildlife Department (TPWD) in 1983, underwent about \$15 million in repairs in 1988-90. Despite that and her importance in naval history, admissions have been too low to cover costs of maintenance and daily operation of the ship. Annual deficits create a chronic drain on state budgets.

**What is the dry berth project and its real cost?** In 2007 the Legislature proposed \$25 million in repair bonds for the ship from General Obligation Bonds which voters approved in Nov. 2007. TPWD's and the Battleship *Texas* Foundation's (BTF) study by a naval engineering firm surveyed the ship's condition; plans were proposed for taking the ship out of the water to place it in permanent dry berth, all at San Jacinto. These studies were required by the General Appropriations Act as a condition of Legislative Budget Board (LBB) bond issuance. A summary of these studies and proposed action was delivered to the LBB on July 11, 2008. The LBB is expected to act on TPWD's request in August 2008. The \$25 million in bonds requires added funds of \$4 million raised by the BTF. *Another \$27 million will be needed to complete restoration.* Also, the BTF has proposed \$14 million for visitor facilities. TPWD plans a \$4 million visitor center near the ship. **Therefore, the entire project will cost about \$74 million.**

**Why relocate the ship?** The current dry berth project will expand and make permanent the ship's footprint at San Jacinto. Friends advocates relocation of the ship for two basic reasons:

**Historic preservation:** *Moving the ship off the Battlefield will allow repair without destroying critically historic land. The ship can then be showcased in its own World War II venue. The Battlefield can be restored to its 1836 appearance. If the dry berth project is completed as planned, we will loose a portion of the Battlefield landscape that can never be reclaimed.*

**Economics:** *Relocating the Battleship could reverse years of chronic government subsidies by increasing visibility and access, enhancing local and non-profit support. There is no indication that visitation after construction of the dry berth will reduce the deficit gap on a long term basis.*

**Did TPWD consider relocation as an option during its initial evaluation of the dry berth project?** NO! Friends has requested studies on relocation since 2006. TPWD says that the agency is not empowered to consider other options unless the Legislature so directs. *Therefore, Friends are raising the issue with the Legislature.*

**Did voter approval in 2007 for bonds mean keeping the ship at San Jacinto? NO!**

- *Proposition 4 ballot language never mentioned the Battleship Texas at all.*
- *TPWD's Prop 4 fact sheet said, "This includes... \$25 million to help fund a new dry berth for long-term preservation of the Battleship TEXAS."*
- *Rider 33 of TPWD's 2008-09 budget refers to "repairs" but not location.*
- *TPWD is required to present "proposed courses of action" to the LBB for ship repairs as a condition of bond fund release. Friends believes that all options should be explored for the best means of saving both the Ship and the Battleground.*
- *The full extent of the project and needed funding, about \$74 million rather than \$25 million, was not made public until TPWD presented its plan to the LBB on July 11, 2008.*

**Is the ship capable of being towed?** Yes! TPWD's Project Plan for Dry Berth informs the Legislature that with adequate preparation the ship can be towed in portions of Galveston Bay and the Houston Ship Channel.

**Does the Friends support any particular destination?** NO! We advocate the highest good of the Battleship. A better site cannot be found without investigating the possibilities.

**Why should residents near the ship support relocation?** The battlefield can be reclaimed and restored if the ship is relocated. We believe, as TPWD and other groups have previously acknowledged that a restored battlefield will enhance the site. It is NOT necessary to move the ship from east Harris County if another suitable location can be found. The objective is to place the ship in a location where its full interpretive potential in an appropriate historical context can be realized.

**What are major tourist destinations in the Houston-Galveston region?** 1<sup>st</sup>, Houston Museum of Natural Science (3+ mil. visitors); 2<sup>nd</sup>, Moody Gardens/Galveston (2 mil.); 3<sup>rd</sup>, and

Museum of Fine Arts /Houston (1.9 mil.). The *Texas* and the Battlefield do not make the Governor's Top 40 list of the Economic Development and Tourism board.

**What about "synergy" between the ship and San Jacinto?** Some contend that synergy exists between the ship and San Jacinto. Ship visitation compared to the park as a whole makes the ship the loser. To the extent the Monument draws visitors to the ship, the Monument does not generate visits to the ship sufficient to cover the ship's annual operating or capital costs. "Synergy" does not work for the ship from a financial standpoint.

The "freedom synergy" used to explain why the sites should be joined at one location, is contrived and does not work. The link between the sites---the Battlefield was where Texas "won its freedom" and the ship represents "protecting freedom"---is artificial and historically inaccurate. The San Jacinto battle involved two armies, not one. We can not belittle the Mexican army as fighting "against freedom." The story is much more complex. Likewise, African-Americans in Texas did not win "freedom" at San Jacinto, nor did women receive the right-to-vote after the battle. "Freedom" was not necessarily secured for Tejanos who became a minority class in a country dominated by Anglo-Americans.

**How does the *Texas* compare to other battleship memorials?** The Battleship has the lowest attendance and highest government subsidies of any other battleship memorial in the nation---other ships are self-support or almost so---although the *Texas* is arguably the most historic.

**What happens if the ship cannot be relocated?** TPWD has not indicted what type of mitigation to the site would be considered, or whether advocates for the battlefield will be allowed to participate. **TPWD Code requires specified restoration obligations and TPWD regulations mandate that the historic integrity of a historic site managed by the agency must be preserved. Texas Administrative Code Title 31, Sec. 59144, states "historical integrity of a historical site. . .must be preserved and encroachments in the form of auxiliary management and public facilities must be avoided."** These regulations prevent TPWD from being tempted to construct facilities on historic properties that do not belong there. The Friends believes that the project as now proposed does not comply with these regulations.

**What can you do to help?** There are alternatives available that can restore both the ship and the battlefield but it is unclear if the Legislature will allow those alternatives to be considered. If you are concerned about this project, contact your State Senator and State Representative at <http://www.capitol.state.tx.us>. Contact the Friends at 713-237-8997, PO Box 940536, Houston TX 77094-7536, or email us at [sjba@usa.net](mailto:sjba@usa.net).

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## Current Construction and Proposed Future Facilities

The mission of the Infrastructure Division is to be the premier planning, design and construction team; recognized for customer-focused, innovative and enduring facilities which are valued and enjoyed by present and future generations. Our shared vision is to provide customer-focused planning, design and construction management for Texas Parks and Wildlife in compliance with codes and regulations and in a manner sensitive to the natural and cultural resources of the State of Texas.

Over the current biennium the Infrastructure Division is committed to the cost effective expenditure of \$100 million in capital repairs. Currently the Agency's Capital Program is funded by a combination of funding sources, of which General Obligation Proposition 8 and Proposition 4 Bond funds approved by Texas voters are specifically designated for Major Repair projects.

The Infrastructure Division coordinates a process to identify the highest priority major repair and construction projects needed by all Divisions, and recommends these for funding to the Texas Legislature.

### Battleship TEXAS Dry-berthing and Repairs

Texas Voters approved \$25 million in bonds for dry berthing the ship on November 6, 2007. The Battleship TEXAS Foundation pledged \$4 million in private donations, the first \$150,000 to be dedicated to a ship Survey and Engineering Study to determine the current condition of the ship. The Battleship TEXAS Foundation awarded a contract to Proceanic, Ltd. of Houston Texas to accomplish the study. The final and complete Proceanic report will be delivered in early April 2008.

The ship itself is 573 feet in overall length and weighs over 35,000 tons.

Built between 1912 and 1915, the Battleship TEXAS was launched May 12, 1912. It is not only the single surviving dreadnaught-type battleship in existence but the only one to have served in both World Wars and is a world-class destination for military history enthusiasts. Over 90 years of exposure

and  
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have  
made it



necessary to consider permanently removing the ship from the corrosive conditions of the Houston Ship Channel. The permanent dry berth, to be built in the location of the existing berth, will halt this erosion and will allow for subsequent external and internal repairs and restorations of the hull and superstructure while offering visitors a unique and magnificent view of the entire ship out of the water.

### **Kerr Conference Center**

The design of a new 4,300 square foot Conference Center at Kerr was completed in December of 2007. The center will accommodate 100 people and contain a lobby, restrooms and a warming kitchen. The \$1.3 million project will be largely donor funded, plus \$250,000 from TxDOT and \$115,000 in matching TPWD funds. Completion is scheduled for March 2009.

### **San Jacinto Visitor Center**

Plans are well underway for a new 12,500 square foot visitor-learning center at the San Jacinto Battleground/Monument State Historic site. The new visitor center will be the starting point for the visitor's experience and provides a preliminary interpretation of the different elements at the site including the San Jacinto Battleground, the Battleship Texas and the Monument. It will bring together all of the staff offices that are currently in different locations. It's located on the axis between the Monument and the Battleship so that the visitor can view all of the main features of the park from one location. The design consultants are currently performing the architectural programming work. An Environmental Assessment (EA) is required because the project is federally funded, and will be performed by a consultant hired by the architect. The EA will take 1-2 years to perform and

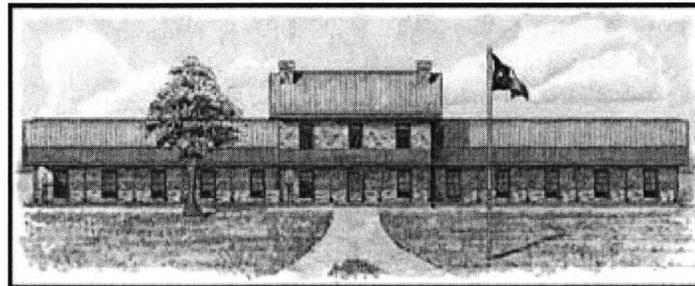


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design.

Construction is scheduled to be complete in August 2012 with final closeout in February 2013.

## Texas Game Warden Training Center

The  
new  
training  
center,  
located  
in



Hamilton County, will include an administration building, education building, gymnasium, water rescue building, dining hall, cadet cabins, staff residences, infirmary, armory and emergency vehicles training course.

Buildings and facilities in the new Texas Game Warden Training Center will meet LEED (Leadership in Energy and Environmental Design) certification standards. LEED standards promote design and construction practices that increase profitability and efficiency, while reducing the negative environmental impacts of buildings and improving occupant health and well-being such as:

- Maximized natural day lighting, solar shading and ventilation of buildings
- Use of salvaged building materials, Forest Stewardship Council certified lumber
- Regionally-sourced and manufactured building materials
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- Photovoltaic electrical generation for lighting and water pumps

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Last modified: July 31, 2009, 4:30 pm



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## Defense Requests

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### Battleship Texas Restoration, Dry Berth, and Visitor Amenities – the Battleship Texas Foundation:

I am requesting \$5 million for this project. The historic Battleship Texas is the only surviving naval vessel that served in both World War I & II. In order to keep her from deteriorating further, the Battleship Texas Foundation in conjunction with the Parks and Wildlife Department, will permanently remove the USS Texas from the water and construct a dry berth at a cost of \$29,000,000.

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*ear mark Appropriations/Defense*

### The Science, Technology, Engineering and Mathematics (S.T.E.M.) Initiative –

**HoustonWorks USA:** I am requesting \$3 million for this project. HoustonWorks USA has outlined a two phase program to introduce middle school students to the world of science and technology. These programs, the Engineering Week and the Energy to Education Initiative will work together to introduce middle school students to occupations in the fields of science, technology, engineering and mathematics. Not only will the youth get to learn about STEM-related career paths, but they will also get to participate in hands-on, interactive exercises.

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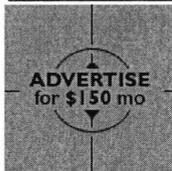


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## TPWD Summary of Legislative Appropriations Request FY 2008-2009

Written on: 01/29/2007 11:27 by: Jason Parrish

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### Overview

We are pleased to present the TPWD Legislative Appropriations Request (LAR) for fiscal years 2008 and 2009.

Our mission is "To manage and conserve the natural and cultural resources of Texas and to provide hunting, fishing and outdoor recreation opportunities for the use and enjoyment of present and future generations." Fulfilling this important mission has been challenging due to funding reductions over the past few years and the need to absorb increases in operating costs. We have prepared an LAR that would restore some of those funds and appropriately reflects the needs and priorities of the agency.

### Summary of the Legislative Appropriations Request

Funding Request (in millions):	FY 2008	FY 2009	Biennial
Total Base Request	\$208.6	\$200.6	\$409.2
Total Exceptional Item Request	\$133.7	\$171.4	\$305.1
<b>Grand Total Request</b>	<b>\$342.3</b>	<b>\$372.0</b>	<b>\$714.3</b>
<b>Method of Finance:</b>			
General Revenue Funds	\$142.3	\$164.4	\$306.7
General Revenue Dedicated	\$129.6	\$133.3	\$262.9
Federal Funds	\$ 39.6	\$ 39.0	\$ 78.5
Other Funds	\$ 30.9	\$ 35.3	\$ 66.1
<b>Grand Total, Method of Finance</b>	<b>\$342.3</b>	<b>\$372.0</b>	<b>\$714.3</b>

Note: Slight differences due to rounding to millions

### Funding Challenges

The past two biennia have been challenging for many state agencies, and Parks and Wildlife is no exception. Reductions of 12.5% of general revenue and GR-related funds in the 2004-05 biennium and another 5% reduction in the 2006-07 biennium have resulted in reductions in several areas agency-wide.

TPWD has had the opportunity to offset some of these reductions with fee increases and corresponding increases in appropriation, contingent on the receipt of revenues. In 2004-05, \$31.5 million (\$28.4 to Game, Fish and Water Safety Account 9 and \$3.1 million to State Parks Account 64) prevented more drastic budget reductions, but state and local parks were significantly impacted. The largest budget reductions occurred with local park grants, state park improvements and repairs, and outreach and public awareness programs. \$34.3 million of Proposition 8 bonds were also removed from the base request which slowed down construction and major repair progress in state parks and various other TPWD facilities.

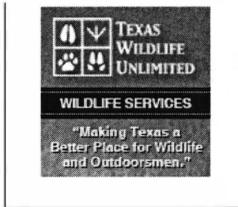
In 2006-07, fee increases and other revenues brought in an estimated \$8.5 of additional revenues annually to offset reductions (\$4.9 million to State Parks Account 64 and \$3.6 million to Game, Fish and Water Safety Account 9). However, funding challenges were further compounded by absorbing increasing operating costs. \$2.1 million of salary increases for longevity, hazardous duty and reclassifications were absorbed annually, along with increased gasoline and utility costs. Utilities in some parts of Texas have increased by as much as 35% over the past year. Compounding these increases were the ongoing costs incurred as a result of hurricanes Katrina and Rita. 171 vacant and 12 filled positions were eliminated at the beginning of fiscal year 2006, and another 73 state park positions were eliminated January 1, 2006 along with various reductions in state park operations. Local park grant funding was reduced to a total of roughly \$5.6 million in FY 2006 and 2007, down from \$20.5 million appropriated in FY 2002.

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Your Weather for:  
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 Brownwood Municipal

**55°F** 9 mph

Forecast Radar Cameras Photos

Zip:

**Monthly Points Leaders**

1. wohalliburton (4128)
2. LSmith6749 (3248)
3. S&W outfitters (1809)
4. scott dye (1717)
5. dosamigos (1220)
6. cphaisell (820)
7. Southtexas (800)
8. onpointadv@yahoo... (746)
9. qualityhuntcon... (620)
10. Limon (597)

**Yearly Points Leaders**

1. wohalliburton (41001)
2. LSmith6749 (35784)
3. scott dye (18168)
4. Hunter X (8036)
5. wheeless621 (7304)
6. shasto (7293)
7. kenjayne (6419)
8. Benson Farm an... (4298)
9. Hardy (3800)
10. texashuntlodge (3161)

These reductions in services are of great concern to TPWD. Coupled with an additional 10% reduction to general revenue and GR-related funds for fiscal years 2008-09, the impact to TPWD is critical. Due to recent fee increases over the past two biennia, we cannot support further fee increases in fiscal years 2008-09 to offset these proposed reductions, but we continue to seek the ability to utilize any revenue earned above the Comptroller's biennial revenue estimate. Our highest priority exceptional item is to restore the 10% reduction as outlined in the summary of exceptional items below, and we recognize that even further funding is needed to restore service levels, particularly for State Parks and Law Enforcement.

**Summary of Exceptional Items**

We have requested 7 exceptional items in our LAR as summarized below.

	FY 2008	FY 2009	Biennial
<b>1. RESTORE 10% REDUCTIONS</b>	<b>\$15.3</b>	<b>\$15.3</b>	<b>\$30.6</b>
General Revenue	\$ 4.2	\$ 4.2	\$ 8.4
GR-Dedicated - Account 9	\$ 8.3	\$ 8.3	\$16.6
GR-Dedicated - Account 64	\$ 2.8	\$ 2.8	\$ 5.5
GR-Dedicated - Other	\$ .0	\$ .0	\$ .1

This exceptional item seeks restoration of \$15.3 million of critical reductions each year and 117.4 FTEs. The related reductions affect nearly all strategies and objects of expenditure including salaries, operating, grants and capital expenditures. Major areas to restore include \$3.7 million in local park grant funding and 2 FTEs, 52 game wardens, 44.4 FTEs in State Parks, 7 FTEs in Wildlife, Coastal and Inland Fisheries, 6 FTEs in Capital Programs, 6 FTEs in Licensing, Boat Registration and Indirect Administration along with various operating reductions. In most cases, restoration of the amounts will allow TPWD to restore services and performance to at least 2007 levels. However, due to continued increases in the cost of utilities and fuel, restoration of the 10% reductions to State Parks and Law Enforcement will not be sufficient to restore service to 2007 levels. Furthermore, it is important to note that even at 2007 levels we are not keeping up with state park operational and maintenance needs, and TPWD facilities are continuing to deteriorate.

	FY 2008	FY 2009	Biennial
<b>2. ADDITIONAL FUNDING FOR STATE PARKS</b>	<b>\$85.4</b>	<b>\$85.4</b>	<b>\$170.9</b>
General Revenue	\$75.4	\$75.4	\$150.9
GR - Sporting Good Tax - Local	\$10.0	\$10.0	\$ 20.0

This exceptional item seeks \$85.4 million of General Revenue each year to provide adequate funding and an additional 262.7 FTEs for state parks and support functions, as recommended by the State Parks Advisory Committee. The request includes funding above the 2007 level for the following items in priority order:

- (1) \$7.1 million per year for State Park salaries
- (2) \$5.7 million per year for operating
- (3) \$4 million per year for minor repairs
- (4) \$6.6 million per year for equipment, transportation items and computers
- (5) \$2 million per year for other divisions costs to support the State Parks Division
- (6) \$25 million per year for major repairs
- (7) \$7 million per year for acquisitions surrounding existing parks and necessary development
- (8) \$8 million per year for acquisition and development of new state parks
- (9) \$20 million per year for Local Park grants

	FY 2008	FY 2009	Biennial
<b>3. PROPOSITION 8 GO BONDS</b>	<b>\$17.1</b>	<b>\$28.9</b>	<b>\$46.0</b>
G.O. Bond Proceeds	\$17.1	\$28.9	\$46.0

Proposition 8 General Obligation bonds were approved by voters in 2001 to address a critical backlog of repairs. This exceptional item requests appropriation of the remaining balance of \$46 million in GO bonds over the 2008-09 biennium. Approval of these amounts will allow the department to address major repair and maintenance needs, help prevent an unreasonable critical repair backlog and will fund specific projects, such as Levi Jordan, Battleship Texas and the San Jacinto Battleground approved by the Legislature. Debt service associated with this request is \$343

thousand in fiscal year 2008 and \$2.4 million in fiscal year 2009 and will be requested by the Texas Public Finance Authority.

	FY 2008	FY 2009	Biennial
<b>4. GR FUNDING FOR GAME WARDENS</b>	<b>\$2.6</b>	<b>\$2.6</b>	<b>\$5.2</b>
General Revenue	\$2.6	\$2.6	\$5.2

This exceptional item seeks \$2.6 million of General Revenue each year to support game warden operations. This funding will offset budgetary impacts resulting from increased operational costs such as fuel, utilities and consumable supplies and provides funding for Law Enforcement to maintain level manpower at 510 game wardens. The request also includes \$500 thousand each year to allow for the replacement of unsafe, higher mileage vehicles in a more timely manner. General Revenue is being requested since services provided by game wardens benefit all citizens of the state, not just hunters, anglers and outdoor enthusiasts. The game wardens' work on hurricanes Katrina and Rita underscores the vital role that game wardens play in protecting and serving citizens. Further, increased game warden involvement in homeland security activities and emergency management responsibilities has raised concerns regarding use of the traditional source of funding (Game, Fish and Water Safety Account 009) for non-fish and wildlife related enforcement efforts. This general revenue would address the potential risk of losing federal funding.

	FY 2008	FY 2009	Biennial
<b>5. FRESHWATER STAMP FUNDS</b>	<b>\$7.2</b>	<b>\$10.9</b>	<b>\$18.1</b>
GR-Dedicated - Account 9	\$7.2	\$10.9	\$18.1

House Bill 1989 of the 78<sup>th</sup> Legislature authorized TPWD to create a freshwater fishing stamp, the proceeds of which were to be used for the repair, maintenance, renovation, or replacement of freshwater fish hatcheries in Texas or for the purchase of game fish to be stocked in the state's public waters. TPWD estimates that the total amount of funding available from the sale of the freshwater fishing stamp (including existing balances and revenue received in fiscal years 2008 and 2009) will total \$23.6 million over the 2008-09 biennium. This exceptional item requests that after satisfying debt service (\$2.8 million per year relating to previous bond authority to fund the fish hatchery), the remaining \$18.1 million of dedicated funds collected from the sale of this stamp be appropriated for completion of the construction of the East Texas Fish Hatchery in Jasper and for maintenance and repairs to other hatcheries statewide.

	FY 2008	FY 2009	Biennial
<b>6. CAPITAL REPAIRS – BATTLESHIP TEXAS</b>		<b>\$22.5</b>	<b>\$22.5</b>
General Revenue		\$22.5	\$22.5

The Battleship Texas represents an ongoing funding challenge for TPWD. The 1914-era ship requires extensive multi-million dollar repair and maintenance projects every decade or so. Critical repairs to the Battleship Texas and the construction of a permanent on site dry berth at the San Jacinto Battleground is estimated to cost \$51.04 million. The 79<sup>th</sup> Legislature authorized the Texas Department of Transportation (TXDOT) to issue \$16.1 million in federal Surface Transportation Enhancement Program (SAFE-TEA) funds for the Battleship Texas. If approved by the federal highway agency and the TXDOT Commission, these SAFE-TEA funds will be used for the construction of a permanent dry berth for the ship. An additional \$12.425 million of remaining GO Bond (Proposition 8) authority is being requested for fiscal years 2008 and 2009 as a part of exceptional item number three to complete the construction of the dry berth, install emergency dewatering pumps, perform necessary steel hull repairs, and electrical system and wood deck repairs.

This exceptional item requests General Revenue for the balance of \$22.5 million in fiscal year 2009 for the remaining critical repairs to the ship that include internal structural repairs, steel hull repairs to ship bottom, keels, and blister tanks, repairs to above deck superstructure, cranes and masts, installation of a heating/cooling system, ventilation and dehumidification systems, and additional electrical system upgrades.

	FY 2008	FY 2009	Biennial
<b>7. TEXAS STATE RAILROAD</b>	<b>\$6.0</b>	<b>\$5.8</b>	<b>\$11.8</b>
General Revenue	\$6.0	\$5.8	\$11.8

The Texas State Railroad (TSRR), a historical railroad dating back to 1881, represents the single most costly state park to operate. The TSRR currently offers service between Rusk and Palestine. Due to the high costs associated with repairs, safe operations and maintenance, the TSRR is slated to become a static museum display at TPWD's base level funding request. This exceptional item requests \$11.8 million of General Revenue over the biennium and 61.7 FTEs to continue the TSRR as a fully operational railroad. The request would cover additional salary and operating costs, annual track maintenance, repairs and rail operations, equipment purchases and repair, land acquisition, and major repairs and construction required to resume full operations. There would be continuing construction,

equipment, repair and other costs associated with the proper maintenance and upkeep of the TSRR beyond the 2008-09 timeframe.

**Rider Revisions and Additions Request**

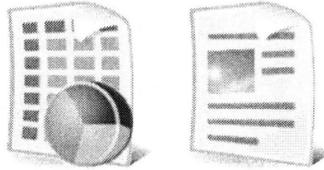
Several rider revisions are requested in the appropriations request, but some of the more significant rider revisions include the continuation of appropriation of receipts out of General Revenue-Dedicated Accounts. This rider allows any additional revenue in excess of the Comptroller's Biennial Revenue Estimate to be appropriated to the department. With the absorption of inflationary costs, this rider has been particularly helpful.

The department also requests appropriation from land sale proceeds that occur over the 2008-09 biennium as well as the ability to carry forward any unexpended balances from fiscal year 2007. Within this rider request the Department is seeking appropriation of all of the land sale proceeds from the sale of the Game Warden academy for the purpose of constructing and equipping the new academy. In the event the academy is sold in fiscal year 2007, any unexpended balances from the sale are requested to be appropriated in the 2008-09 biennium. Finally, this rider is broad enough to allow us to use proceeds from the sale of Eagle Mountain Lake State Park if that property were to sell during the 2008-09 biennium for the acquisition and development of a new state park in the vicinity of Ft. Worth/Dallas.

**State Data Center Consolidation Project**

TPWD is one of 27 initial agencies that will be consolidated into the State Data Center. All current data center costs associated with the future consolidation have been reported as professional services in our appropriations request for fiscal years 2008 and 2009. Should the cost of the future data center consolidation exceed the department's current costs, we request that General Revenue be appropriated to cover the increase. General Revenue is requested because any costs in excess of the department's current costs will be considered as costs needed to support the State, and we cannot use Game, Fish and Water Safety Account 009 funds to support expenses that are not fish and wildlife related or our federal partners will withdraw their funding support. It is our understanding that the Department of Information Resources will work with the 80<sup>th</sup> Legislature to ensure that agencies included in the State Data Center receive additional appropriation if the costs exceed the agency's current funding level.

*Images and Files:*  
View all 2 photos / videos here.



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**Author:** Luke **Comment Left:** 01/29/2007 20:31  
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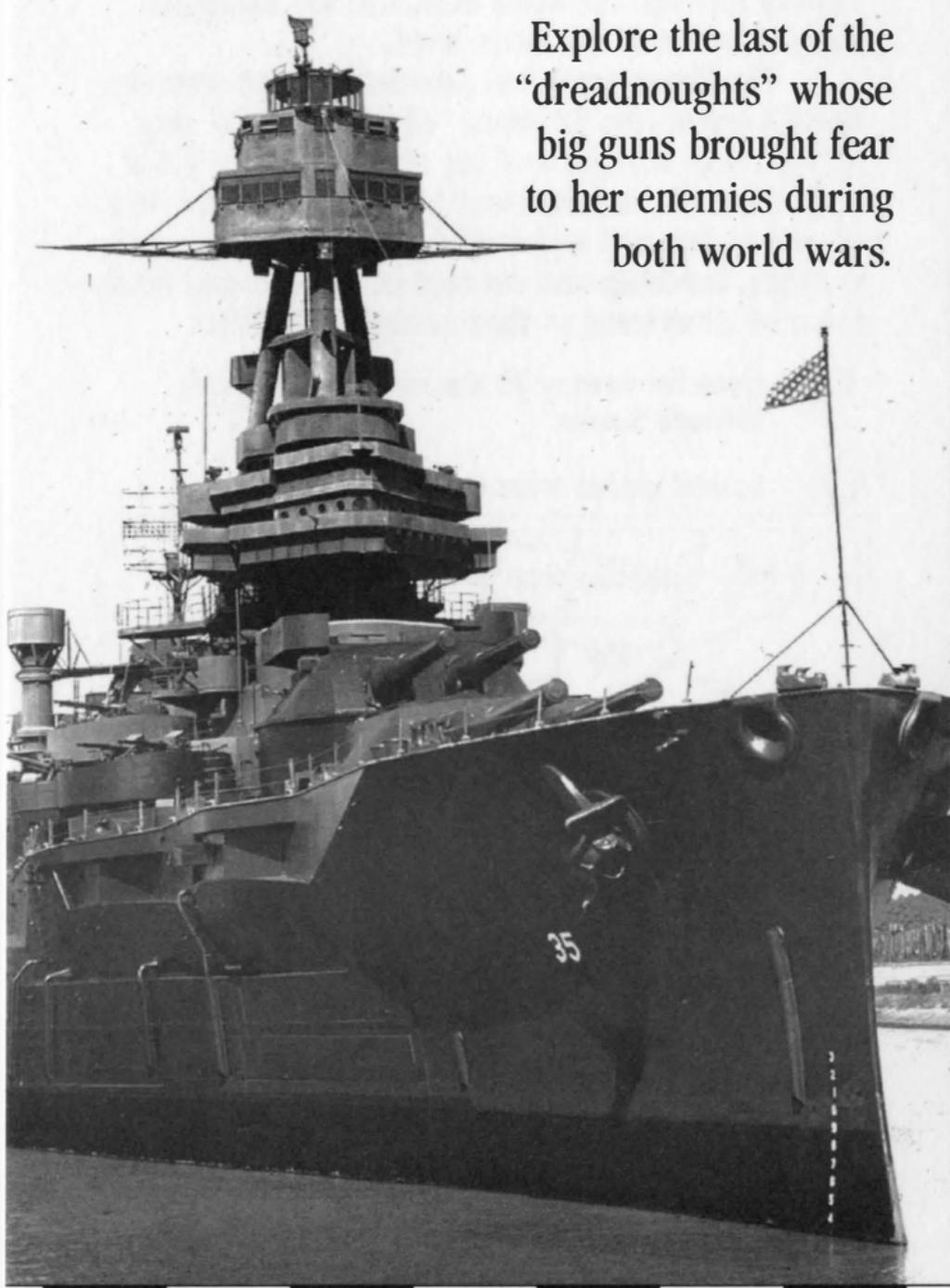
Moss, Sue Winton. *Historic Structures Report Battleship Texas: A Report for the Texas Parks and Wildlife Department.*  
Austin: Preservation Planning and Consulting, 1993.

# Battleship Texas



State Historical Park

Explore the last of the  
“dreadnoughts” whose  
big guns brought fear  
to her enemies during  
both world wars.



# Battleship Texas (BB35)

**T**he Battleship *Texas* (BB35), commissioned in 1914 and moored at the San Jacinto Battleground since 1948, is the only surviving Navy warship that served in both World Wars.

Over the course of her years of service, the *Texas* has undergone much modification on guns, armor and propulsion. She helped pioneer naval aviation between the wars and was kept up-to-date with advances in radio and radar. Extensive restoration work, begun in 1988, returned the historic vessel to its original outward appearance. Internal restoration has also started and will be continuing over the next number of years. Guided tours lead visitors through the main deck and the maze-like compartments of the lower level.

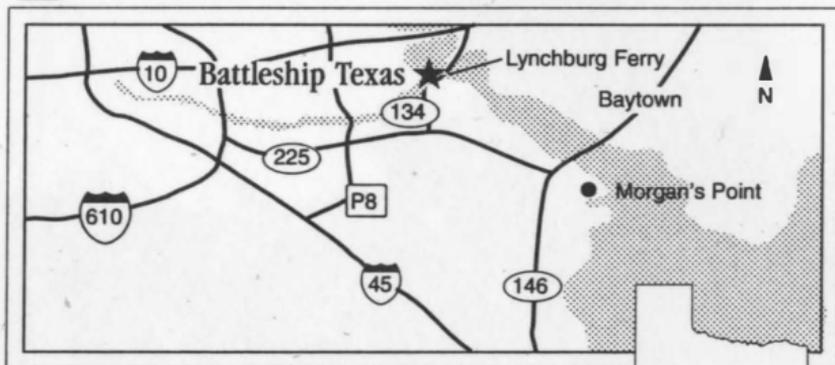
The *Texas* projected American power over the world's oceans for 32 years. Always a proud ship, imbued with the spirit of her namesake, the *Texas* serves us still: a monument to those who built and served on her and a powerful reminder of the skill, sacrifice, hardship and courage demanded and freely given by Americans in their country's defense.



Open for touring 10 a.m. to 5 p.m., Monday through Sunday.



Special guided tours on weekends.



Located in Harris County, 22 miles east of downtown Houston via Texas 225 and Texas 134.



Call 1-713-479-2431 for additional information on tours and contributions.

BATTLESHIP TEXAS (BB35)  
3527 Battleground Rd.  
La Porte, Texas 77571

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# BB 35 THE BATTLESHIP TEXAS



## Welcome Aboard The Battleship TEXAS

She is the last of the "Dreadnoughts" and the only surviving U.S. naval vessel to have seen service in both World Wars.

When the U.S.S. TEXAS was commissioned in 1914, she was the most powerful weapon in the

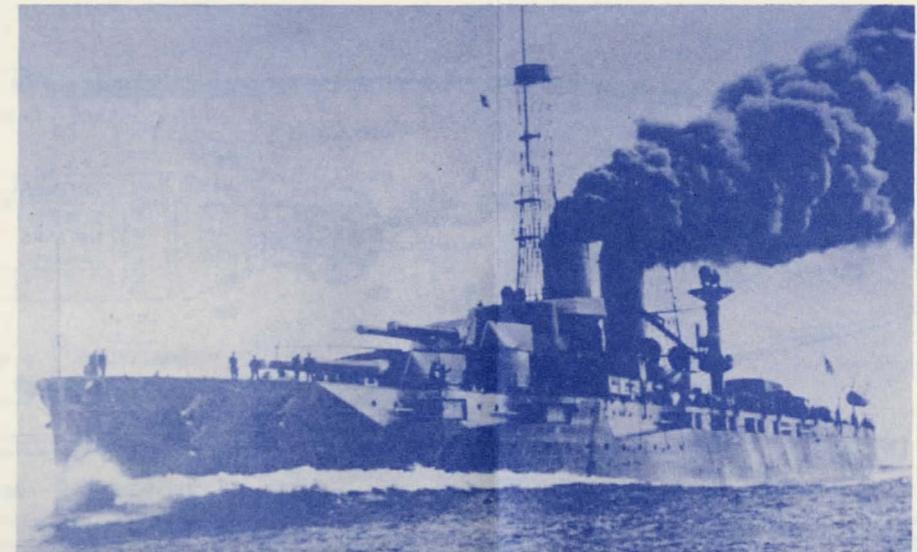
world; the most complex product of an industrial nation just beginning to become a force in global events. The TEXAS projected American pride and power over the world's oceans for 32 years. Her big guns brought dread to her enemies and hope to her friends in the Pacific in 1945 as she had in the North Sea in 1918.

Always a proud ship, imbued with the spirit of her namesake, the TEXAS serves us still: a monument to those who built and served on her, a powerful reminder of the skill, sacrifice, hardship and courage demanded and freely given by Americans in their country's defense.

## Touring the TEXAS

The Battleship TEXAS is a large and complicated artifact. Getting around in her can be confusing, even to a sailor. A Visitor Tour Path indicated by signs and arrows about the ship can help you get the most from your visit.

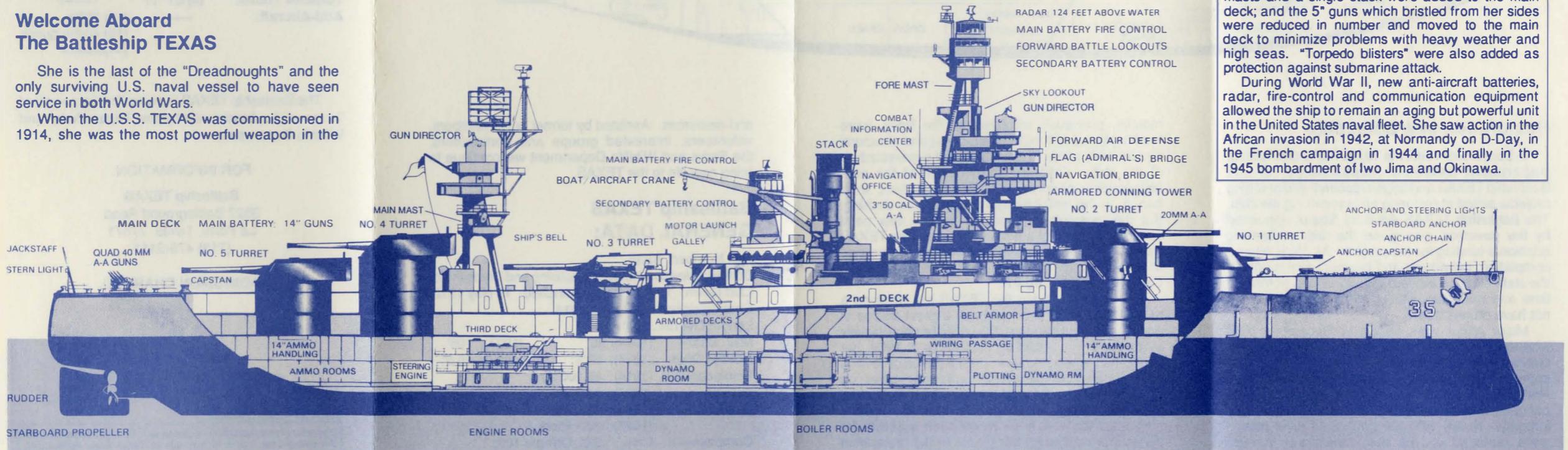
**PLEASE BE CAREFUL.** High coamings (door sills), steep ladders and obstructions about the decks make a battleship hazardous to the unwary. Please supervise children closely (no running). **ENJOY YOUR VISIT.**



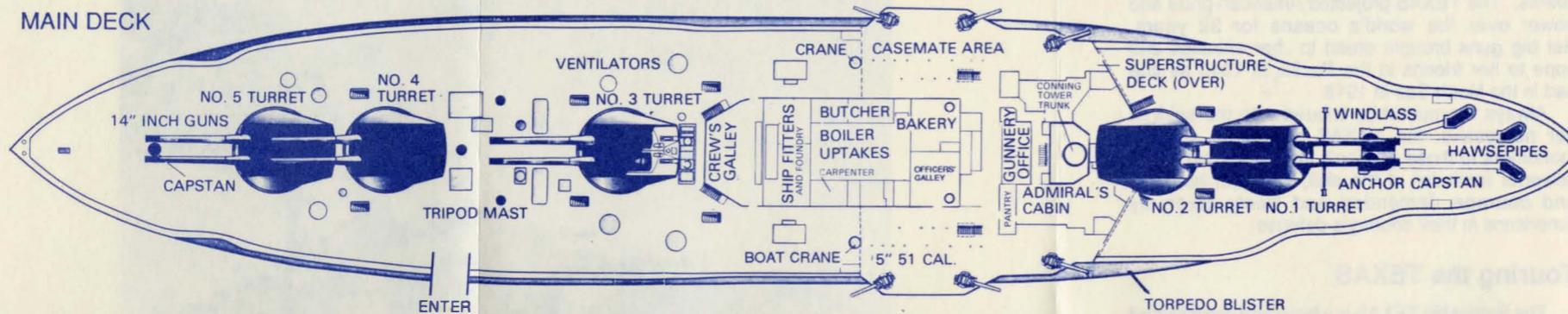
The U.S.S. TEXAS as outfitted for World War I shows the twin "basket" masts, twin stacks and billowing coal smoke from her original boilers.

In 1925, the TEXAS underwent major modifications. She was converted to oil-fired boilers; tripod masts and a single stack were added to the main deck; and the 5" guns which bristled from her sides were reduced in number and moved to the main deck to minimize problems with heavy weather and high seas. "Torpedo blisters" were also added as protection against submarine attack.

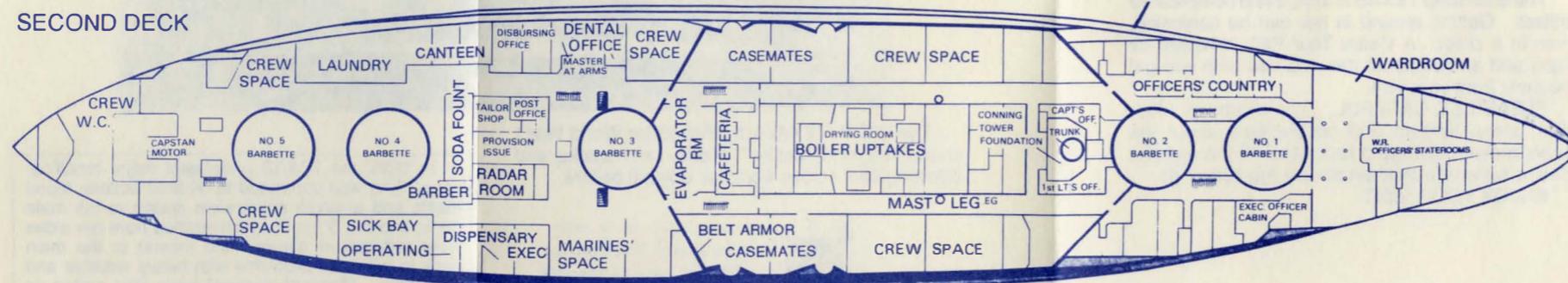
During World War II, new anti-aircraft batteries, radar, fire-control and communication equipment allowed the ship to remain an aging but powerful unit in the United States naval fleet. She saw action in the African invasion in 1942, at Normandy on D-Day, in the French campaign in 1944 and finally in the 1945 bombardment of Iwo Jima and Okinawa.



## MAIN DECK



## SECOND DECK



## Restoration of a Battleship

In September 1983, the Texas Parks and Wildlife Department assumed responsibility for the Battleship TEXAS and began research and planning projects aimed at restoring and preserving the ship. The Battleship TEXAS Advisory Board, appointed by the governor, was given the task of seeking additional funding for the project. As plans neared completion, individuals and businesses throughout the state stepped forward with donations of money, time and materials without which the work could not have progressed.

Major repair work began in December 1988 when the TEXAS was towed to Todd Shipyard in Galveston and concluded when she returned to her improved berth at San Jacinto Battleground State Historical Park in July 1990. Initial projects concentrated on restoring the ship's watertight integrity. Nearly 350,000 pounds of steel plating were replaced on the hull, tanks and torpedo blisters; gun tubs and some anti-aircraft gun

mounts, previously removed by the Navy, were once again added to the main deck; and structural repairs were made to the masts and superstructure of the ship. Following the removal of the non-historic layer of concrete on the main deck, work began on the installation of new wooden decking. But the most obvious change was a new paint scheme. Instead of a peace-time gray, the TEXAS was painted the dark blue she wore during service in the Pacific in 1945 (Navy specification Camouflage Measure 21).

The work of saving the TEXAS has involved a tremendous effort and has been a great source of pride throughout the state. But while the ship officially reopened to the public on September 8, 1990, her restoration is not complete. Over a period of several years, many compartments and work areas on the ship will be carefully refurbished to portray life on a warship in 1945. Some of the spaces scheduled for work have never been available for public tour. Although this phase of the restoration will be exciting, it will also require considerable time

and resources. Assisted by former crew members, volunteers, interested groups and contributors, the Parks and Wildlife Department will continue to bring new life to the TEXAS.

## Battleship TEXAS GENERAL DATA:

Hull Number: BB35  
 Builder: Newport News Shipbuilding and Drydock Co.  
 Laid Down: 17 April 1911; Launched: 18 May 1912;  
 Commissioned: 12 March 1914  
 Length Overall: 573'  
 Max. Beam: (1914): 95' (1927): 106'  
 Normal Draft: (1914): 28'5" (1927): 28'6"  
 Displacement: (1914): 28,000 tons  
 (1927): 34,000 tons  
 Speed: (1914): 21 knots  
 (1927): 20.4 knots  
 Complement: Crew, 1,625; Officers 100;  
 Marines 84 (peacetime)

Active through 32 years of rapid change in the machinery of naval warfare, the TEXAS has undergone much modification in guns, armor and propulsion. She helped pioneer naval aviation between the wars, and was kept up-to-date with advances in fire control, radio and radar as the focus of her defense shifted to the sky. Her basic reasons for being, however, remained the same: to float the big guns of her main battery into an action, and to keep them firing against any enemy response.

## Armament:

**Main Battery:** 10 14 inch/45 cal. guns in 5 turrets

Range: 12 miles  
 Projectiles: Armor Piercing: 1500 lbs  
 High Explosive: 1275 lbs  
 Full Broadside (Armor Piercing): 15,000 lbs  
 Rate of Fire: 1.5 Rounds per Minute  
 Turret Crew: 70 men

	1914	1945
<b>Secondary Battery:</b>	(21) 5"/51	(6) 5"/51
<b>Torpedo Tubes:</b>	(4) 21" TT	—
<b>Anti-Aircraft:</b>	—	(10) 3"/50 (10) 40mm quads (44) 20mm

The Battleship TEXAS is owned by the people of Texas and administered by the Texas Parks and Wildlife Department.

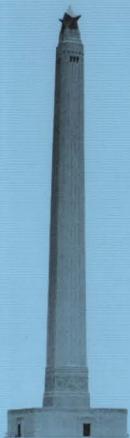
## FOR INFORMATION:

Battleship TEXAS  
 3527 Battleground Road  
 La Porte, Texas 77571  
 (713) 479-2411

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## THE SAN JACINTO MONUMENT AND MUSEUM

The memorial, constructed in 1936-1939 with Federal and State funds at an approximate cost of \$1,500,000, commemorates the heroes of the Battle of San Jacinto and all others who helped win the independence of Texas.

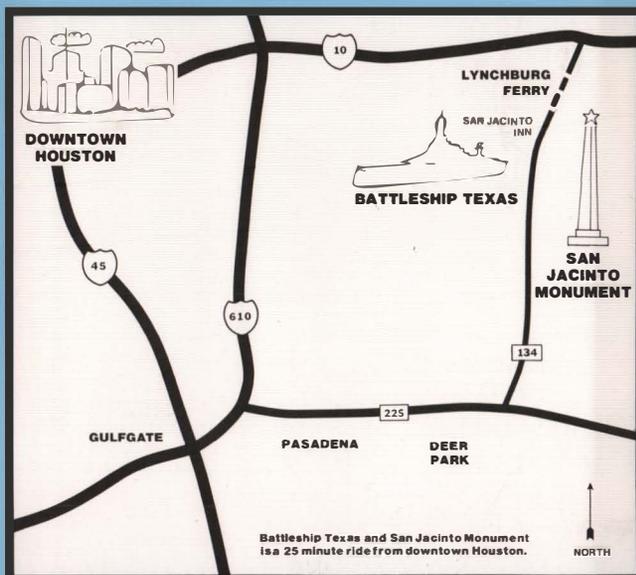
The monument, 570 feet high, is built of reinforced concrete faced with Texas fossilized buff limestone. The shaft is 47 feet square at its foundation, tapering to 30 feet square at the observation tower. At the apex of the building is a star 35 feet high, weighing 220 tons. The approximate weight of the building is 70,300,000 pounds, resting on a single concrete foundation 125 feet square by 15 feet deep.

The monument houses a museum of history. Emphasis in the exhibits is on the cultural development of Texas and the region under the two civilizations: Spanish-Mexican and Anglo-American.

The San Jacinto Battleground is a State Park of 460 acres located on the Houston Ship Channel near Houston, Texas. This is the site of the famous battle between the Mexican and Texas armies on April 21, 1836, which won independence for Texas. Led by General Sam Houston, 783 Americans completely routed the Army numbering about 1400 under the command of General Antonio Lopez de Santa Anna. The battle lasted but eighteen minutes and the casualty list showed 630 enemy soldiers killed, 208 wounded and the remainder taken prisoner. Nine Texans were mortally wounded and thirty later recovered from their wounds.

San Jacinto was one of history's decisive battles in that it led to the Mexican War which resulted in the acquisition by the United States of the States of Texas, New Mexico, Arizona Nevada, California, Utah, and parts of Colorado, Wyoming, Kansas and Oklahoma. This area makes up nearly a million miles of territory.

Call or write San Jacinto Museum of History Association (713) 479-2421 P.O. Box 758, Deer Park, Texas 77536



### THE BATTLESHIP IS OPEN EVERY DAY OF THE YEAR

May 1—Labor Day 10 a.m.—7 p.m.

Labor Day—April 30 11 a.m.—5 p.m.

#### KINDLY ADDRESS CORRESPONDENCE TO:

Chairman, Battleship Texas Commission  
Exxon Building, Room 2695  
Houston, Texas 77002  
Telephone: (713) 225-5013

#### THE ADDRESS OF THE BATTLESHIP IS:

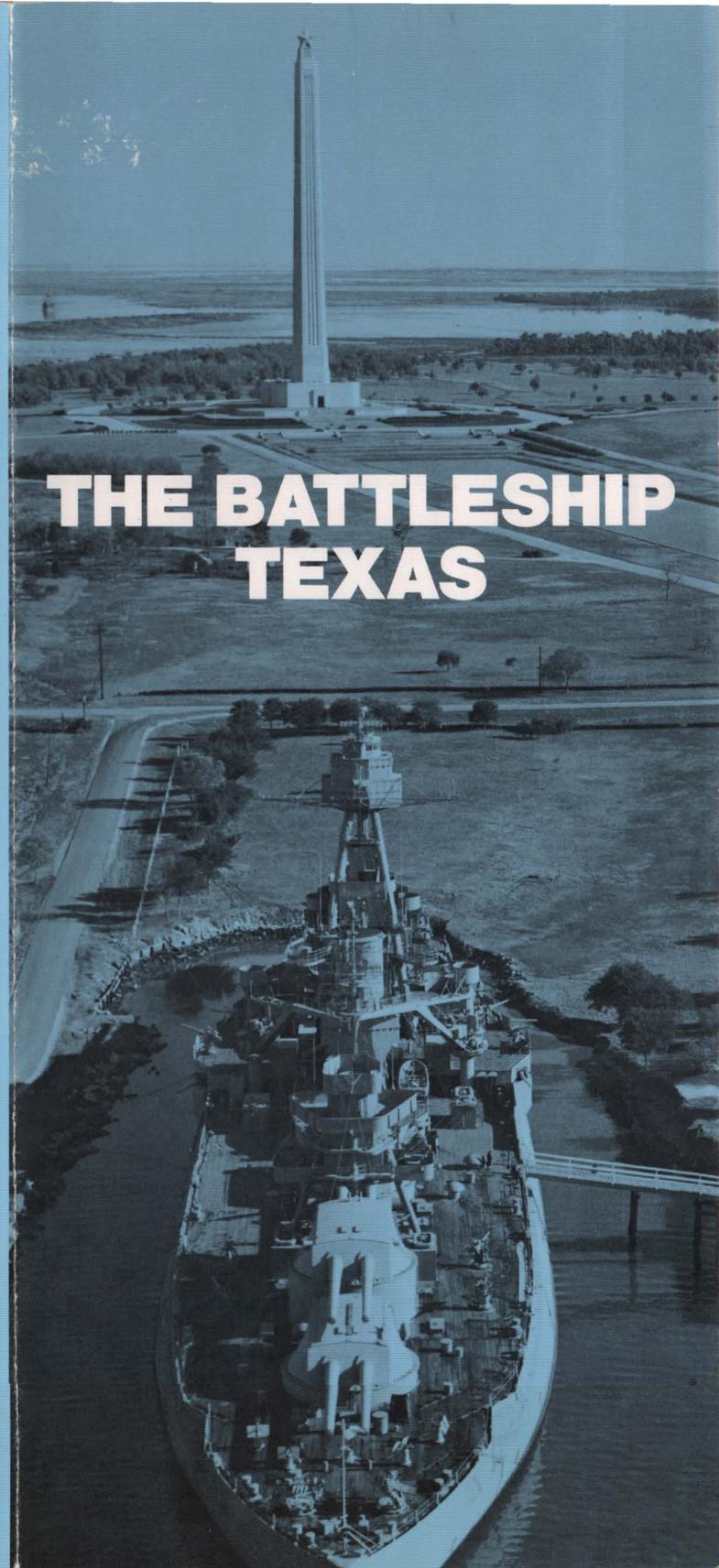
San Jacinto Battleground  
P.O. Box 868  
La Porte, Texas 77571  
Telephone: (713) 479-2411

### FACTS ABOUT THE TEXAS

Length overall .....	573' 0"
Breadth extreme .....	106' 0"
Height at top foremast .....	138' 0"
Draft (normal) .....	28' 6"
Tonnage .....	35,000
Horse power .....	27,000
Complement: (Peace time)	
Crew .....	1625
Officers .....	100
Marines .....	85
<b>TOTAL .....</b>	<b>1810</b>

#### AMMUNITION EXPENDED IN WORLD WAR II:

MAIN BATTERY (14 inch) .....	4,278 rounds
SECONDARY BATTERY (5 inch) .....	3,885 rounds
A. A. BATTERY (3 inch) .....	584 rounds
MACHINE GUN BATTERY (40 MM) .....	3,721 rounds
MACHINE GUN BATTERY (20 MM) .....	2,275 rounds
Total miles travelled in action against the enemy .....	121,000
Total days in actual operation against the enemy .....	478



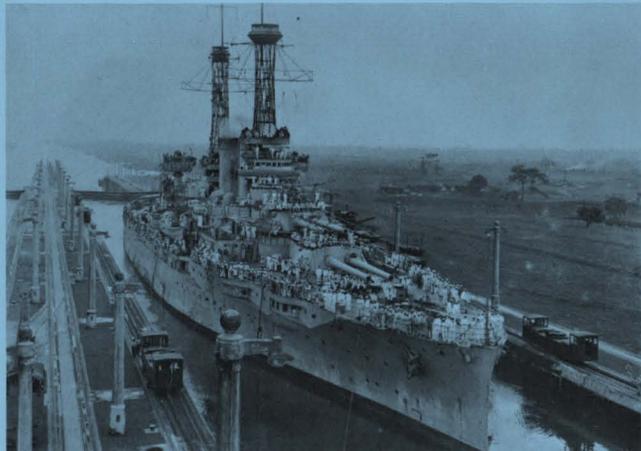
# THE BATTLESHIP TEXAS

Very few persons today and no other enshrined man-of-war can claim to be

## A VETERAN OF TWO WORLD WARS

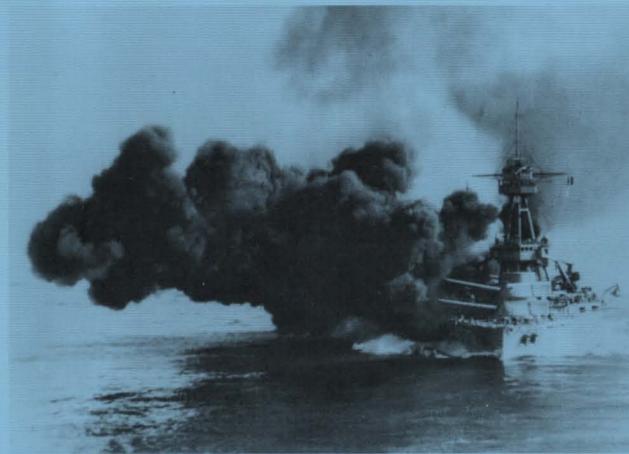
The USS TEXAS was completed and commissioned on March 12, 1914. She joined the Atlantic Fleet that year classified as a dreadnought class battleship, one of the mightiest afloat. In 1918, Texas saw action as a valuable member of the Sixth Battle Squadron of the Grand Fleet.

World War I completed, TEXAS transited the Panama Canal in 1919, as shown below, joining the Pacific Fleet. She was converted from coal to oil in 1926 and otherwise modernized.



In 1927 this veteran again went through the Panama Canal with some changes in her appearance quite evident. (below right)

Many a fine young citizen was educated, trained and matured aboard this grand ship in the next 22 years. At the time of the Pearl Harbor attack in 1941, this now famous ship was in the harbor at Portland, Maine. Most authorities of that time insisted that the days of the battleship were over, but big TEXAS was a welcome sight indeed off Casablanca, Gibraltar, Morocco, Cherbourg and then the Normandy coast when her ten 14 inch guns poured salvo after salvo (see upper right) into enemy artillery positions on D-Day to give our soldiers a foothold on Fortress Europe. The days of the movable fort had not passed completely. After V-E Day, Texas played an important part in victories at Iwo Jima and Okinawa.



After being decommissioned in 1948, this glorious but tired lady was presented to the State of Texas and became the flagship of the Texas navy with the name

## THE BATTLESHIP TEXAS

She rests peacefully near Houston on the Ship Channel in the San Jacinto Battleground Park. At that time and for 27 consecutive years thereafter, Lloyd Gregory of Houston was Chairman of the Battleship Texas Commission. Citizens of Texas and the U.S. both owe him much. Our memorial to all who have served in our Armed Forces is supported solely by admission fees and an occasional grant by public spirited citizens.



## THE BATTLESHIP MUSEUM

The entire ship is actually a museum as well as a memorial to those who served our Nation in military service. The Admiral Nimitz Room, the Cruiser Houston Room, the Trophy Room, The Texas Navy Museum, The Marine Corps Room, and numerous other spaces have been dedicated to remind oldsters and to inform youngsters that the glories of freedom are always hard-earned. Our Ship's Store has a fine selection of literature covering the life and times of Our Ship, giving the student a fuller opportunity to review the lore of sea power than this brochure permits.

## THE AUDIO TOUR

For your increased pleasure, an audio system has been installed to give you the detailed highlights of the equipment, facts, figures, and past performance of the Battleship Texas. The speakers located at the various numbered stations are actuated by a push of a button and the two to three minute tape recordings will be of interest to all ages.

## A THEATER CLASSROOM

For groups, we offer the use of a theater-classroom in a space located one deck below the main deck on the starboard side. The purpose of this facility is to provide visiting groups of students a place for discussion, lectures, films, and other audio-visual aids regarding the Battleship Texas as well as historical and current events relating to national defense. Teachers in charge of groups may reserve this room in advance and use it as appropriate for their students. None of us on the Battleship Texas Commission or Staff will ever lose sight of the fact that a visit to this ship, which belongs to all citizens, should be primarily educational.