The Daybook

Vol. 10 Issue 1

In This Issue...

Operation Holiday Cheer.....3

Artifacts That Honor and Heal.....4

The Local Arsenal of Democracy at St. Juliens.....6

NAVAL★MUSEUM
Local History. World Events.

About The Daybook *and the Museum*

The Daybook is an authorized publication of the Hampton Roads Naval Museum (HRNM). Its contents do not necessarily reflect the official view of the U.S. Government, the Department of Defense, the U.S. Navy, or the U.S. Marine Corps and do not imply endorsement thereof. Book reviews are solely the opinion of the reviewer.

The HRNM is operated and funded by Commander, Navy Region, Mid-Atlantic. The museum is dedicated to the study of 225 years of naval history in the Hampton Roads region. It is also responsible for the historic interpretation of the battleship *Wisconsin*.

Call for information on the museum's and *Wisconsin*'s hours of operations. Admission to the museum and *Wisconsin* is free. *The Daybook*'s purpose is to educate and inform readers on historical topics and museum related events. It is written by the staff and volunteers of the museum.

Questions or comments can be directed to the Hampton Roads Naval Museum editor. *The Daybook* can be reached at 757-322-2993, by fax at 757-445-1867, e-mail at gbcalhoun@nsn.cmar.navy.mil, or write *The Daybook*, Hampton Roads Naval Museum, One Waterside Drive, Suite 248, Norfolk, VA 23510-1607. The museum can be found on the World Wide Web at http://www.hrnm.navy.mil.

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Features

The Director's Column.....2

Auld Lang Syne:
New Year's Hellos and Goodbyes

Book Reviews.....10

Resurrection: Salvaging the Battle Fleet at Pearl Harbor by Daniel Madsen. Reviewed by Howard Sandefer

Hunt and Kill: U-505 *and the U-Boat War in the Atlantic* edited by Theodore P. Savas. Reviewed by Joe Judge

The Museum Sage.....12

Putting St. Juliens' Hard Work to Work: A Visual Look at the Anti-Aircraft Gun Upgrade

Cover Illustration: No military operates without weapons. At facilities south of Norfolk Navy Yard-Portsmouth, workers at the St. Juliens Creek Annex manufactured the weapons with great precision and safety that helped the U.S. Navy win two world wars. On the cover is a modern day map of the installation and views of the Annex, including one of the 16-inch gun barrels meant for the battleship *Kentucky* (BB-66). With new information obtained from historic preservation surveys, we present a new article on the Annex.

Auld Lang Syne

The Director's Column

by Becky Poulliot

I like the concept of a new year and new beginnings; it is a time to revisit what works and what doesn't and a chance to even start all over again if something totally flops. As a team, the museum opted to start 2005 off just right with a sharpened focus on education, a push for more volunteers, and an emphasis on our core audience—the Sailor, today and tomorrow's. In keeping with these goals that have been conceived and adopted by the staff as a whole, we have made some changes.

In education, we plan to partner with local military commands and will host our popular luncheon lectures on Norfolk Naval Station. Be on the lookout for the museum's Calendar of Events 2005 with its listing of provocative speakers running the gamut of topics covering the early Navy to today's high tech communications field.

Secondly, our staff recognizes that in order to be successful, people have to know about us. Enter Kathleen Martin, the museum's public relations coordinator and newest staff member. Kathleen is no stranger to the Hampton Roads area as she has worked as a public affairs officer for both Commander, Naval Base, Norfolk and Commander, Naval Surface Forces Atlantic. Kathleen is truly a world traveler, having worked as a public affairs specialist for Commander Naval Forces Europe in London, and in NAS Bermuda. Kathleen's most recent adventure found her at living for the past three years in Weisbaden, Germany with her husband (a Human Resources Officer for the U.S. Navy) and three children. Kathleen brings much enthusiasm, along with talent, to the museum. Her number one goal is to get the word out about us and to bring visitors and volunteers in.

Our newest concept to get the word out for the young audience, both in age and in heart, is our institution's mascot "Bucky." This badger figure is a take-off on the *Wisconsin's* World War II cartoon character (as shown in the upper right) that appeared in the official ship newsletter *The Badger*. We hope to use Bucky in our off-site outings and in our Family Fun activities.

As stated earlier, a new year is a time for hellos and goodbyes. As I write this column, I prepare to say goodbye to my dear friend and co-worker Captain Al Petrich, who died December 17, 2004. For ten years Al stood watch at the Hampton Roads Naval Museum as a docent, as a reenactor portraying a World War II U-boat Commander in the Battle of the Atlantic gallery, and then later on board the *Wisconsin*. Al never refused a request to work. Never reticent, he was the first to assess a situation honestly, and give me guidance, moral support, and above all friendship. I will miss the "Hello Sunshine" greeting so much, but I know that Al felt it was time to leave. He forged his own destiny his entire life from his beginnings as a boy leaving World War II Germany, to his arrival in America, and all the way up the ranks of the Navy, becoming a Captain and master aviator. Al, yours was a life well lived. We will never forget you.

Bucky

Moving? Change of Command?

Let us know so you don't miss out!

Send address changes to

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HAMPTON ROADS NAVAL★MUSEUM
Local History. World Events.

Museum Conducts Operation Holiday Cheer

Over the past few months, the Hampton Roads Naval Museum has been encouraging children visiting the museum to create their own holiday greeting cards for sailors on the USS *Harry S. Truman* (CVN-75). The Norfolk-based aircraft carrier is currently deployed to the Mediterranean Sea and Persian Gulf and is not due back until Spring 2005.

Entitled Operation Holiday Cheer, the museum laid out construction material for the children and they created cards with well wishes for the sailors. Museum educator and Navy wife Kathryn Shaffner, creator of the program, stated that "the purpose of the program is get children thinking about what it means to make a sacrifice for one's country and to show their support for the sailors deployed overseas during the holiday season."

CMDCM Clarence "Frenchie" Frye, *Truman*'s command master chief, commended the program. "Being away from home during this time of year is stressful for everyone, but the efforts of organizations like the Naval Museum's "Project Holiday Cheer" help to remind us of the support and caring we get from those we serve. The Sailors and Marines of the USS *Harry S. Truman* thank you for your love and support this Holiday Season."

Over 300 cards were sent out to the aircraft carrier in December in time for Christmas.

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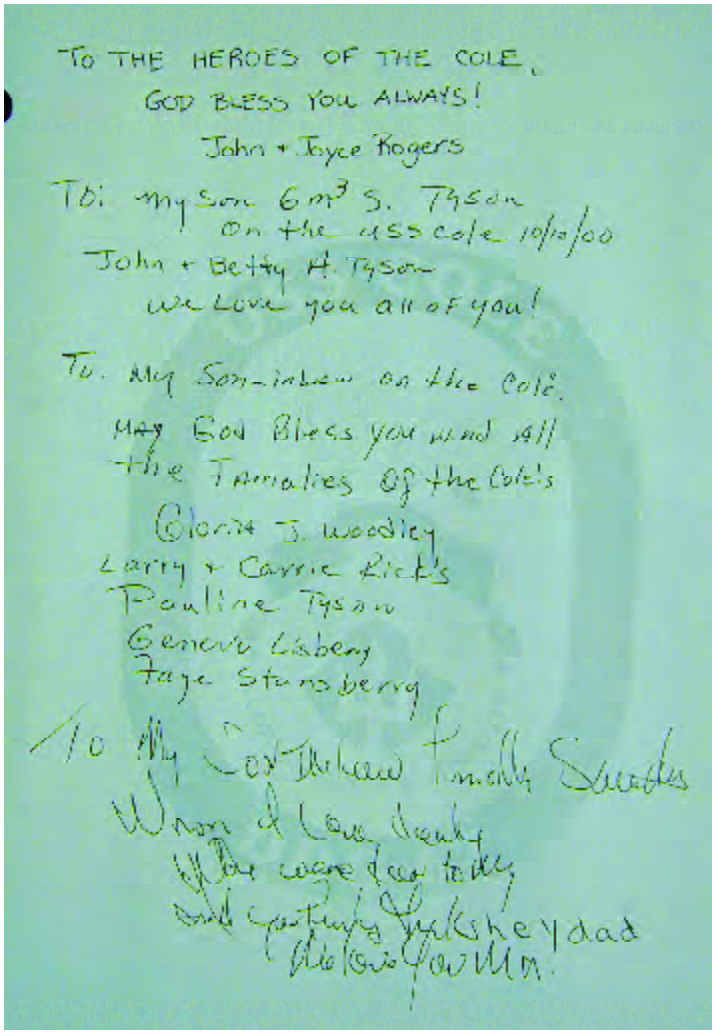
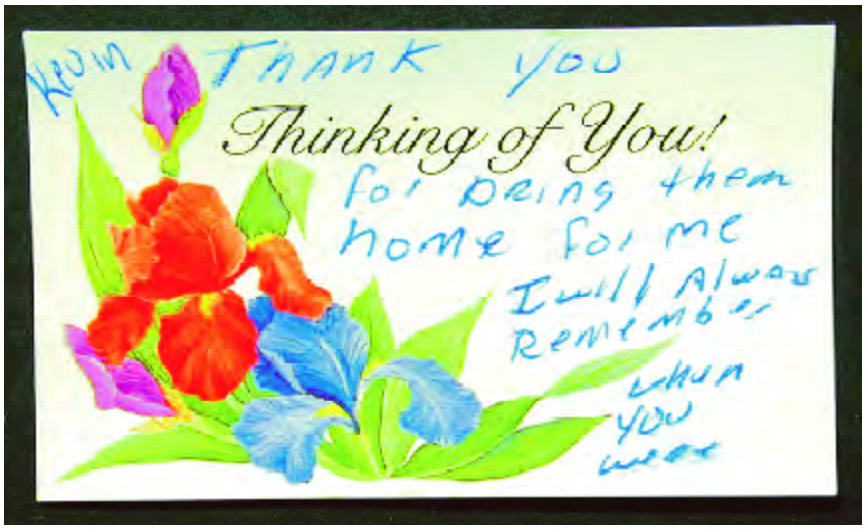
HAMPTON ROADS NAVAL ★ MUSEUM

To Honor and Heal: Items From the USS *Cole* Memorial

At Iowa Point at Naval Station Norfolk is a memorial to fallen sailors serving on the Norfolk-based USS *Cole* (DDG-67). The warship was attacked by a suicide bomber on October 12, 2000 in Aden, Yemen. Since its dedication, several items have been placed at the base of the memorial by family and friends of those who gave their lives in the line of duty. The Hampton Roads Naval Museum is currently preserving items left at the memorial and will soon be placing them on display. Pictured here are some of the items that have been collected and of the memorial itself. (All photos by Michael V. Taylor)




Thank you
Thinking of You!
for bring them
home for me
I will Always
Remember
when
you
were

In Memory of Our Fallen Airmen

The Annex at St. Juliens Creek

A Look at the Region's Arsenal of Democracy

by Michael V. Taylor
and Gordon Calhoun

The local arsenal of democracy-St. Juliens Creek Ammunition Depot, 1943. The Navy first purchased the land in 1896 and slowly expanded the facility as the Navy's ammunition requirements grew. All of the ordnance functions for the Atlantic Fleet have since been moved from St. Juliens to Yorktown Naval Weapons Station or have been outsourced to private companies. (U.S. Navy photo)

In one of his famous "fireside chat" speeches, President Franklin D. Roosevelt declared in 1940, "We must be the great arsenal of democracy." Long before Roosevelt made his grand declaration, St. Juliens Creek Annex had served as one of the nation's greatest arsenals. Since 1896, the Naval facility has played an important role in the development of naval ordnance and delivered millions of pieces of weaponry to the fleet.

Hidden approximately one mile south of the Norfolk Naval Shipyard, St. Juliens Creek Annex survives as one of the few examples of an intact military industrial complex from the first half of the twentieth century. The buildings at St. Juliens Creek Annex give the entire facility a distinctive character. They are organized in long rows of large-scale, low-rise, widely spaced warehouses and magazines. The road grid runs in a northwest to southeast pattern (see map on page 7). The consistently aligned rows and other repetitive building types give the installation a town-like setting. The buildings are in general spaced at safe distances apart due to safety considerations. The earliest munitions-related buildings are made from brick. Later munitions buildings were built out of poured concrete. Ordnance production structures were housed in metal-framed brick clad buildings with masonry firewalls. The interiors on most of the buildings exhibit concrete and masonry walls, steel or wooden roofs with ceiling beams and trusses. Floors are typically wood or concrete.

Congress first gave life to the facility on March 2, 1895 by authorizing a new weapons depot along St. Juliens Creek. The Congressional act appropriated seventy-five thousand dollars for the "Removal of a magazine at Craney Island in the harbor of Norfolk to a more suitable and safe locality". Using these funds, the United States Navy purchased 47.7 acres of land situated on the Southern Branch of the Elizabeth River in Norfolk County from Mr. M. Watts of Portsmouth on January 28, 1896. Mr. Watts was paid $20,000 for the property.

A maintenance of way gang works on of the main railroad lines at St. Juliens. The Hampton Roads facility had an extensive railroad network that connected to the area's major railroad lines to move supplies and completed ammunition. (U.S. Navy photo)

In early 1897, the Navy established St. Juliens Magazine on the Watts property to provide ordnance storage for materials from the Norfolk Naval Shipyard. Considered to be a safe distance from the Naval Shipyard, the site was adjacent to South Branch of the Elizabeth River and accessible to the local Virginia Railway and Power Company track railheads. Within its first year of operation, the Magazine saw the construction of two wharves, two wharf houses, five magazines and two quarters. Almost immediately, St. Juliens Magazine began a continual process of expansion until the end of World War II.

The first expansion in 1900 saw the construction of the railroads network within the Magazine and the acquisition of more property. Twenty-five acres were purchased from the Portsmouth Company on March 29,1900. This new property addition was authorized by an act of Congress which had been approved on March 3, 1899 for improvements, quarters and the purchase of additional grounds. The Portsmouth Company was paid $10,713.90 in consideration for the property. On February 11, 1907, the Portsmouth Company sold an additional

St. Juliens continued on page 7

St. Juliens Annex is located just south of the Norfolk Navy Yard and armed the fleet in both World Wars. The facility has been designated an historic district. (1999 U.S. Navy historic survey map)

St. Juliens continued from page 6

22.40 acres to the Navy for $22,000.

In 1907, St. Juliens Magazine became a stockpile site for explosive "D" which was used in projectiles. Also known as ammonium picrate and picrate acid, explosive "D" was used as a bursting explosive for the Navy's armor piercing shells and bombs. It is a more stable compound than other traditional explosives and is capable of withstanding stress and shock of a shell in motion without prematurely detonating. Still used today, almost exclusively by the military though it is also employed in fireworks and as a solid fuel propellant.

Starting in 1908, two-man teams began placing the stockpiled "D" into 805 pounds shells used in the Navy's new high velocity Mk 6 12-inch rifles that made up the second generation battleships' main battery. Workers also assembled 6-inch shells used in the battleships' secondary guns. The powder bags accompanying the 12-inch shells each weighed about 305 pounds. Three years later, this manual method of shell assembly was replaced by the introduction of hydraulic presses. Each projectile was hand-loaded by the team that compacted the explosives by dropping weights into the projectile cavity. With the new technology, workers were supposed to be able to assemble four bags per hour. This included not only pour the powder into the bag, but also properly sewing the bag safely.

On January 2, 1917, St. Juliens Magazine was designated as a Naval Ammunition Depot. Soon after the United States declared war on Germany, the American and British navies planned a North Sea mine barrage as a method of combating the German U-boat campaign. Hampton Roads became the center for the manufacture of the Mk VI mine used in the campaign. As there was no facility anywhere in the United States to mass manufacture the number of mines needed (estimated at over 100,000), the Bureau of Ordnance and the Bureau of Yards and Docks selected St. Juliens for the new facility. St. Juliens was both near other major naval facilities and had experience in handling dangerous goods.

To meet this goal and to meet higher ammunition demands, the Navy radically enlarged the newly designated Depot by constructing thirty-six permanent buildings and two large docks. Based on designs proposed by the Washington, D.C-based architectural firm of Boyle-Robertson Construction, work on the new buildings began in late October 1917. Ideally, the mine production factory was supposed to be up and running by the end of 1917. The Depot's production goal was to receive, load and ship 1,000 mines per day. Traveling from a Navy built temporary community of mobile homes located between the Depot and the Norfolk Naval Shipyard, the 16 officers and 525 enlisted men assigned to the Depot worked day and night on the project. However, a variety of factors delayed construction. Human resources was a major issue. The new draft acts took many potential construction workers away and what laborers that were available often went on strike. The great winter of 1917-18 was so cold in Hampton Roads the battleships of the Atlantic Fleet were iced in the York River, and construction ground to a halt until February 1918.

Of the thirty-six new buildings built

St. Juliens continued on page 8

Who is St. Julien Anyway?

The Annex is named after the creek it is located next to: St. Juliens Creek (spelled consistently without an apostrophe "s"). However, it is not entirely clear why a creek was named St. Juliens.

One possible explanation is that it was named for a Christian saint named Julien (or Julian as it is spelled in English). The problem with this explanation is determining which one. The Vatican has beatified no less than twenty-five different men and women named Julien/Julian over the years. St. Julien the Hospitaler is recognized for setting up a hospital for the poor in France in repentance for accidently slaying his mother and father. He is the patron saint of boatkeepers and innkeepers. Then, there is St. Julian Sabas the Elder who was a fourth century evangelist in the Eastern Roman Empire.

It is entirely possible it is not named for a Christian saint at all. A local individual, who happened to be named William Julien, appears frequently in local land records around the area where the creek is located. Whether or not he was a good person that led people to label him a saint or was an evil person and given the label sarcastically has yet to be proven.

The Vatican recognizes twenty-five different saints with the name "Julien" ("Julian" in English). Pictured in the middle of this stained glass window at a cathedral in Rouen, France is St. Julien the Hospitaler, patron saint of boatkeepers and innkeepers. It is not known for sure whether or not St. Juliens Creek and the Annex are named in his honor or for a local person.

St. Juliens continued from page 7

during the War, twenty-two of them were for mine manufacturing. All were completed by March, including buildings to manufacture and pour the T.N.T. used in the mines and cold storage facilities where the mines were stored until ready to be shipped. Most of the new buildings built at St. Juliens Creek Annex during the World War I expansion were typical steel-frame and metal-clad structures, which had reinforced masonry piers with masonry infill panels. The warehouse complex was laid out evenly spaced and in regular rows within a modified grid plan. These plans were based on concepts formed by the Board for the Development of Navy Yard Plans before the war. Additionally, railroad spur lines were laid with tracks being placed on the west side of the buildings they were to serve. Loading docks dominate the sides of many of the buildings.

With the buildings finished, the Norfolk Naval Shipyard and St. Juliens divided the mine assembly labor. The Shipyard manufactured the casings for the Mk VI and St. Juliens took the responsibility to load the cases with 300 pounds of T.N.T. The Navy called up several hundred naval reservists to assemble the mines as the Navy realized civilians could not be convinced to work under the harsh working conditions. The reservists were sheltered in substandard base housing, worked through all hours of the night, and had to breathe in dust residue from the T.N.T. Nonetheless, despite all hardships (officially the Navy stated that the sailors worked "cheerfully"), the mineworkers assembled and shipped over 1,500 mines a day over a period of 50 days. Workers handled over 22,000,000 pounds of T.N.T. without one incident or accident. Of the 85,000 mines shipped overseas from the United States, St. Juliens manufactured 73,000. Another team of 400 reservists carefully loaded all of the underwater weapons onto mine carrying vessels bound for Scotland.

Several hundred mines went unused during the War and were subsequently shipped up to the newly established Yorktown Mine Depot, now called the Yorktown Naval Weapons Station, for storage (see page 16 for an interesting view of the storage facility). Many of these surplus Mk VIs were used in mining campaigns against Axis navies during World War II.

In addition to the mine-loading plant, St. Juliens Ammunition Depot assembled numerous types of guns and became a torpedo storage center during World War I. To accommodate the new responsibilities, three land acquisitions enlarged the Depot's boundaries by purchasing the Virginia Railway and Power Company tracks to the northwest, up to Blow Creek to the northeast, up to St. Juliens Creek to the southwest, and up to the Elizabeth River to the southeast. Additionally, C. S. Sherwood and his wife sold approximately 21.40 acres to the Navy for $18,169.80 on January 15,1917. Then, Harry L Alexander and his wife sold the Navy 9.74 acres for $3,664.77. The final 1917 addition of 88.05 acres was acquired for $38,164.99 from the Portsmouth Company.

The Navy first opened St. Juliens as an alternative to Craney Island for ammunition storage. These concrete "igloo" type storage facilites are typical structures for storing ordnance. (U.S. Navy photo)

The facilities at St. Juliens Creek Annex continued to expand during the years between World War I and World War II.

St. Juliens continued on page 13

Cold Steel for a Hot War: Battleship *Kentucky*'s Gun Barrels

Of all the items and relics at St. Juliens Creek Annex, it is difficult to miss six very large metal tubes. These tubes are six huge gun barrels that lay side by side in an abandoned field. They were intended for the main armament batteries on the sixth *Iowa*-class battleship, the *Kentucky* (BB-66). When construction of *Kentucky* was canceled with the end of World War II, the Navy still operated *Iowa*-class battleships armed with the same type 16-inch/50 caliber Mark 7 naval guns. Through the years, the Navy stored these extra barrels for use as replacements on the *Iowa*-class battleships still on active duty. Sometime in the 1970s, the Navy moved the barrels to what was then St. Juliens Ammunition Depot.

All six gun barrels still remain where they were off-loaded. Each barrel sits on wooden platforms made from railway crossties. The barrels are supported off the platforms by large steel cradles that are bolted together in two sections. Each cradle has large three-inch thick u-bolts, which were used as cable and crane connections for hoisting the barrel during transportation and during the barrel replacement procedures on board *Iowa* class battleships. Thanks to what appears to be a very well compacted and prepared ground surface, these 119.57-ton barrels have not sunk into the ground at all. Adjacent to the barrels, there are also signs of the remnants of a railroad spur, which might explain how the gun barrels were transported to their present location.

Manufactured by the famous Bethlehem Steel company in Pennsylvania and rifled at the Naval Gun Factory in Washington, D.C., the barrels are examples of American industrial might at its height. They are over sixty-five feet in length and can fire a one ton shell about twenty-three nautical miles (longer with modern ammunition.) The Mk 7s were the largest gun actively used by the U.S. Navy.

Three views of the Mk 7 16-inch/50 gun barrels that sit quietly at St. Juliens. (HRNM photos by Michael V. Taylor)

Battleship Kentucky *(BB-66), the sixth and last of the* Iowa *class, battleships, sits incomplete at Norfolk Navy Yard-Portsmouth, 1946. The Navy eventually launched her incomplete and scrapped her a few years later. The boilers for the ship were placed in the fast replenishment ships USS* Camden *(AOE-2) and USS* Sacramento *(AOE-1) and a section of the bow was placed on USS* Wisconsin *(BB-64). (U.S. Navy photo)*

If the guns are ever used, it will not be the first equipment meant for *Kentucky* that ended up being recycled. The Navy took the boilers and engines manufactured for BB-66 and placed them in the fast replenishment ships USS *Camden* (AOE-2) and USS *Sacramento* (AOE-1). A section of *Kentucky*'s bow was used to repair *Wisconsin* in the 1950s.

Since USS *Wisconsin* (BB-64) is still listed as a mobilization asset, the Navy continues to maintain a large store of 16-inch ammunition and 16-inch powder bags at the Naval Weapons Station in Crane, Indiana. If *Wisconsin* or any other *Iowa*-class battleship are ever placed back on active duty, there will also be a need for replacement barrels. Until then, or until there is no longer a need for replacement barrels due to the disestablishment of all *Iowa*s, the Navy will probably continue to care for its Mk 7 barrels at St. Juliens Creek Annex. If the decision is made to scrap or sell the barrels sometime in the future, the main problem will be moving them. Without a railroad spur leading to a major track line or pier, moving and transporting the barrels will be problematic to say the least.

Book Reviews

Resurrection: Salvaging the Battle Fleet at Pearl Harbor

by Daniel Madsen
Reviewed by Howard Sandefer

Dramatic movies of Marines invading the Pacific islands taken during World War II usually show pictures of clipper-bowed battleships providing naval gunfire support for the invading forces. These battleships are of either the *California* or *Colorado* classes, but they were not supposed to be there. All of both classes were sunk at Pearl Harbor. The process that made the ships available is the focus of this book.

The Japanese attack on the Battle Fleet at Pearl Harbor on December 7, 1941 was perhaps the most traumatic event of the 20th century for the United States. Several official investigations and numerous books were written about the attack, and innumerable conspiracy theories were generated. It captured the attention of the nation. Can anything new be written about the occurrences at Pearl Harbor, given the intense examinations of the past? Daniel Madsen has found something new: the resurrection of the battle fleet in the dark days of danger and defeat.

Daniel Madsen. *Resurrection: Salvaging the Battle Fleet at Pearl Harbor*. Annapolis: Naval Institute Press, 2003. ISBN 1-55750-488-1. $24.95.

Madsen begins the book in the moments after the final attack was completed. Fires were burning, which continued to burn for several days. Ships had exploded and sunk. Several ships had capsized. Sailors and Marines had died in large numbers. Uppermost in the minds of the commanders at Pearl Harbor were the preparations necessary to repel a repeat air raid, or possible amphibious landings. Above all else, the salvage of the sunken ships had to begin.

Officers were quickly assigned, not because they had any experience in this kind of catastrophe, but because they were available. No one in the U.S. Navy had experience in this magnitude of casualty. The officers so assigned set to work. They were tasked with the salvage of the damaged and sunken ships. They had to arrange everything from secretarial support, to caring for the wounded and dead, to determining priorities for rescue and salvage work. Berths had to be cleared, and this consideration became more important as new units joined the fleet. Accommodations had to be made for the men who supplied the labor, many of whom were crew members of the sunken ships. It was a dirty, back breaking, totally exhausting and dangerous task. The hours were long, the work dirty and filthy in mixed oil and salt water. The personnel concerned had no previous experience in dealing with such extensive devastation and death.

New procedures were required for such evolutions as rolling a capsized hull back to the vertical after the damage. Search procedures were hastily devised to search for survivors in the damaged and capsized ships. Provisions had to be made for the collection, identification and burial of the personnel casualties of the attacks.

Perhaps the most courageous men, in a population loaded with courage, were the divers who entered unstable ships in total darkness with little or no visibility. They were always in danger of being trapped by items in the hulls they were exploring, and several died in this dangerous work.

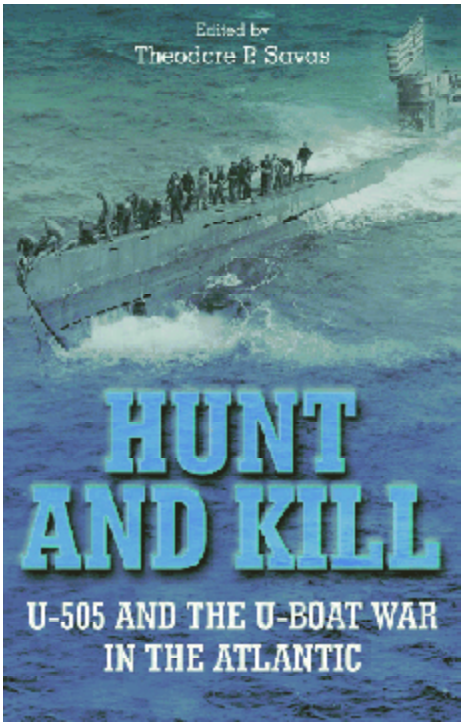
The salvage effort was driven by the necessity of repairing the least damaged ships to get them in the war. Some, like USS *Oglala* (CM-4), had sunk in the worst possible place, and were blocking much needed berthing spaces for the fleet. The salvagers used triage to determine which of the sunken and damaged ships were the best candidates for salvage.

The salvage effort continued until March 15, 1944, when all diving operations were stopped. Of the battleships sunk, only *Arizona* (BB-39) and *Oklahoma* (BB-37) were complete write-offs. *Utah* (BB-31/AG-16), a target ship and former battleship, was a memorial like *Arizona*. The cruisers and destroyers were salvaged. Of the others, *Nevada* was one of the Naval Gunfire Support ships off Normandy. *Colorado* (BB-45), *California* (BB-44), *West Virginia* (BB-48), *Maryland* (BB-46), and *Pennsylvania* (BB-38), all provided gunfire support off the Pacific Islands, and exacted revenge at Suriagao Strait.

There are some minor technical glitches in the book, such as incorrect labeling of naval weapons (5-inch/.25 gun and 3-inch/.50 AA guns for example), but it does not distract the reader from the overall purpose and clarity of the work. This book is an obvious tribute to a large number of men who answered a challenge with determination and competence. They have been unrecognized generally, and the author can just scratch the surface of their heroism and abilities, but it is a well-deserved tribute that reminds us of the other unrecognized heroes in our midst. It is well to remember that heroes come in all sizes, shapes, jobs, and colors. We live among them without knowing their stories, and it is well that this book helps remind us.

Hunt and Kill: U-505 *and the U-boat War in the Atlantic*

Edited by Theodore P. Savas
Reviewed by Joe Judge



The capture of *U-505* is one of the most dramatic stories in American naval history. American sailors and airmen from Task Group 22.3 (homeported in Norfolk, Virginia) succeeded in capturing the German submarine *U-505* off the coast of Africa in 1944, just before D-Day. The Navy accomplished this remarkable feat with the combination of decoded German radio messages (the famous ULTRA project, for many years a secret) and the superb training and bravery of the U.S. sailors. *U-505* is today an artifact of the Museum of Science and Industry in Chicago, Illinois.

In the years immediately after the war the *U-505* story was dominated by the naval officer who commanded the task force, the audacious Daniel V. Gallery. In his books like *U-505* and by his effort to place the captured boat in a museum, Gallery dramatized the event and the Navy's Atlantic campaign. In more recent years the Battle of the Atlantic has received a great deal of attention from filmmakers, scholars and museums, and *U-505* is usually recognized in many of these accounts.

Theodore P. Savas, editor. *Hunt and Kill:* U-505 *and the U-boat War in the Atlantic*. New York: Savas Beatie, 2004. ISBN 1-93271-401-4. $32.95.

Hunt and Kill is a new volume of essays devoted to *U-505*. Editor Theodore P. Savas has assembled several historians to examine different elements of the story. Mr. Savas claims that *U-505* is "only cursorily understood by most readers – even those with a deep interest in World War II naval history." The reason, he goes on to say, is that "Most accounts of the capture of *U-505* are written from the Allied perspective as related through the words and eyes of Daniel V. Gallery." The result of Savas' belief in previous one-sided coverage is a volume that focuses on the German side of the story, with the exception of the long final essay that deals with the boat's transition from captured enemy vessel to museum display.

The book is intelligently organized, beginning with Eric Rust's examination of Type IX U-Boat strategy in World War II. (*U-505* was a Type IX boat, larger than the Type VII's that were the workhorses of the German undersea fleet). From there, essays by Timothy Mulligan and Lawrence Paterson examine the crew of *U-505* and the boat's combat patrols. Paterson in particular provides a harrowing account of the on board suicide of one of *U-505's* captains, Peter Zschech, after an intense depth charge barrage in 1943. Other essays examine the role of intelligence in capturing *U-505*, the cat and mouse decisions of the American task force and the German submarine that lead to the fateful capture and the decisions that faced the German crew when she surfaced and confronted the U.S. Navy. There is lots of drama to the *U-505* story and these essays all strive to capture it in different ways.

The longest essay in the book is by Keith Gill, curator of *U-505* at Chicago's Museum of Science and Industry. It describes the politics and problems of the submarine's journey from capture to museum exhibit. Necessarily, this lacks the drama of life and death underwater combat and boarding ships on the high seas, but it is instructive for local, national and Navy politics. Gill assesses early efforts to move the submarine to Chicago with the words, "It was becoming clear the Navy, restricted by law in what it could do financially, was not going to pay for any of the services required to get U-505 into shape. The course the committee had been following, however, was all about getting someone else to foot the bill instead of digging in to aggressively raise the necessary funds."

Hunt and Kill is really two books. The first, comprising six essays, should have been entitled "*U-505*: The German Perspective." Battle of the Atlantic enthusiasts will enjoy this part of the book, recognizing that its focus is not intended to be a global examination of the U-boat war but rather a close-in look at one particular, famous submarine during the war. A complete bibliography regarding *U-505* would have been a helpful addition.

The second part of the book is Gill's thoughtful and honest essay about the complicated, expensive and ultimately successful transfer of *U-505* to Chicago. While the military history enthusiast will find this section of lesser interest, it is good that a well documented record has been made of the political blood and treasure that communities are willing to spend on recording their history.

Hunt and Kill, an interesting compilation, must still be read with Daniel Gallery's works; with Clay Blair's magisterial *Hitler's U-Boat War*; with Captain John Waters *Bloody Winter* and with David Kohnen's *Commanders Winn and Knowles: Winning the U-Boat War with Intelligence 1939-1943*.

Putting St. Juliens' Hard Work to Work

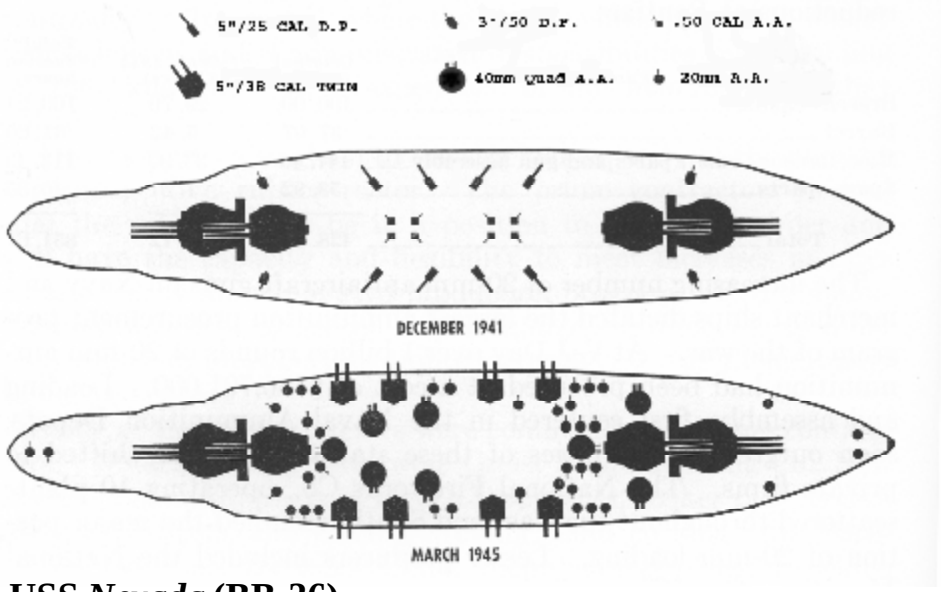
One of St. Juliens' main roles in World War II was the manufacturing of shells used in light antiaircraft guns. There was a high demand for antiaircraft gun shells, especially after hard earned lessons from Pearl Harbor and other early World War II battles forced the Navy into rethinking antiaircraft gun batteries on its warships. As a solution to the air threat, the Navy switched over to large numbers of European-designed 20 mm and 40 mm guns. With the adoption of these new guns, St. Juliens switched over to assembling these shells.

These little guns get some respect, but never their full credit. The battleships are respected and worshiped because of the 14-inch and 16-inch rifles that make up their main armament. We tend to forget, however, that they were also armed to the teeth with smaller guns. The battleship in particular was found to be a very good antiaircraft platform. This, of course, is quite ironic and goes against the notion that Pearl Harbor instantly made the battleships obsolete. What the air raid on Pearl Harbor, and subsequent battles, did teach us was that the battleships needed better antiaircraft protection.

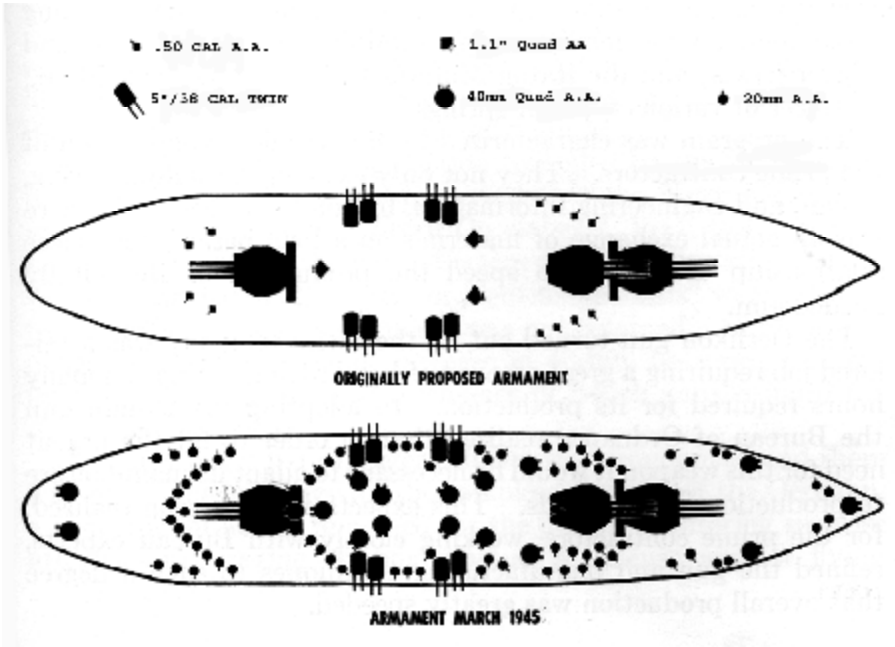
The Museum Sage

At right are "before and after" diagrams of the battleships USS *Nevada* (BB-36) and USS *South Dakota* (BB-57) and their antiaircraft mounts as drawn by the Bureau of Ordnance. There are far better discussions on the antiaircraft upgrade package than can be presented here (the works of Norman Friedman and Robert Sumrall in particular). But at the very least, the diagrams will give you a visual presentation of just how under-gunned the battleships were at the beginning of the war and what the Navy did to fix it.

For the record, Robert Sumrall in his research discovered that *Wisconsin* was originally supposed to be equipped only with its original twenty 5-inch dual purpose guns, four quad 1.1-inch machinegun mounts and twelve .50 machinegun mounts. The Navy upgraded the ship mid-construction to twenty 5-inch guns, twenty 40 mm quad mounts, and forty-nine 20 mm single mount Okerlins, two (with six more added later) 20 mm dual mount Okerlins. This of course resulted in the ship's infamous overcrowding as hundreds of extra sailors had to be added to accommodate the extra sixty-five guns.



USS *Nevada* (BB-36)
(1954 Diagram by Bureau of Ordnance)



USS *South Dakota* (BB-57)
(1954 Diagram by Bureau of Ordnance)

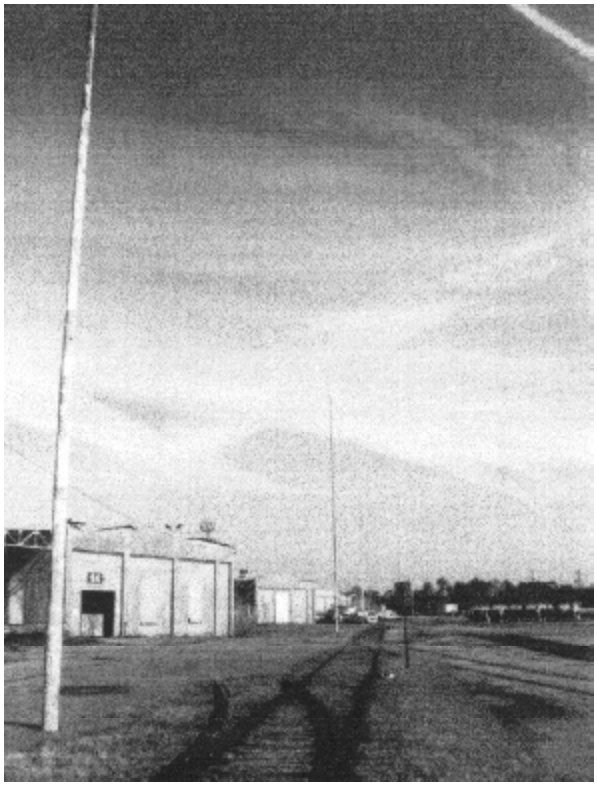
St. Juliens continued from page 8

The Portsmouth Company sold the Navy an additional 228.32 acres in two parcels for $80,280 on January 31, 1929. Right-of-ways were also secured from the Virginia Electric & Power Company, the Norfolk & South Belt Line Railroad Company, and the Virginia Railway Company.

The purchase of the land from railway companies went to expand the facility's railroad system. Abandoned today, the system was comprised of conventional tracks with steel rails resting on wooden ties and a gravel bed. The main St. Juliens Creek Annex track connected with the Virginia Railway and Power Company tracks to the northwest of the original land parcel purchase. As the facility grew, additional spurs were constructed adjacent to newly built buildings. Most tracks and spurs were placed to the west of the buildings they were meant to serve. With so many spurs operating in such a small area, the connecting tracks required the installation of a series of switchers. The switchers were small metal levers that allowed for the movement of tracks so that trains could change to different tracks. In most cases, the switchers were found near spur junctions. After World War II, the railroad system became obsolete and was abandoned. Today, railroad tracks only survive in sections located along roadways and adjacent to vacant buildings.

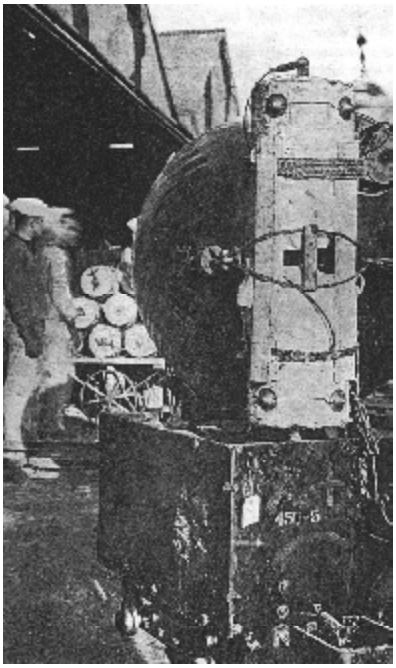
In addition to transportation improvement, St. Juliens received added security and safety measures during this interwar period. Among the security initiatives, on August 12, 1935, all air spaces over the station were restricted to military aircraft only by the Secretary of the Navy under the provisions of Executive Order No. 7138.

One of the more important safety developments during this interwar period at St. Juliens Creek Annex was the development of the Lightning Protection System. Before the construction of this system, workers would have to stop working on shell and power bag assembly during a thunderstorm. At least one officer was brought up on charges for violating this policy. The Lightning Protection System is a network of steel masts connected by and underground grid system that is also bonded to railroad tracks and water hydrants. Conceived in 1929, but not executed until 1934, the system provided grounding for electrical charges associated with lightning that might have ignited the many volatile chemicals and explosives used at St. Juliens Creek Annex.



While many military facilities in the United States made preparation for a surprise attack from a foreign air or naval raid, St. Juliens made preparations in the 1930s against a more likely enemy: Mother Nature. The Navy assembled a series of tall poles as part of the Lightning Protection System throughout St. Juliens to ensure a thunder storm did not ignite stored ammunition. (U.S. Navy photo)

The steel masts ranged in height from seventy to eight-six-and-a-half feet. The mast's diameter at the base was two-feet-one-inch. Each mast was painted with zinc primer and a white finish coat. Tapering toward the top, each mast was divided into sections approximately twenty feet long. Top sections ranged from ten-and-a-half feet to twenty feet. Some of the top sections on the four types of masts were crowned with a sphere. The masts are set approximately 200 feet apart throughout the entire facility. They were attached to the docks on the waterfront and adjacent to most of the buildings.



A fully assembled Mk VI mine awaits to be loaded on to a minelayer at a depot in Scotland, 1918. St. Juliens assembled and loaded over 73,000 of the spherical explosives in just fifty days. They were then sent to Scotland for final assembly and arming. An unarmed Mk VI is in our museum gallery. (U.S. Navy photo)

The system's foundations consisted of steel casings filled with poured concrete that extended six inches above the ground. Metal cables connected the masts underground. Additional cables connected the masts above ground to each concrete foundation. Metal rods dug into the ground are also attached to the cables. The cable system were also connected to the railroad and water hydrants. All cables were attached by welding.

With America's entry into World War II in December 1941, St. Juliens Creek Annex once again played a major, but little-known, role in winning the war. When the United States officially entered World War II, St. Juliens was already one of the largest ammunition depots in the country. Ammunition production at the Depot focused almost exclusively on smaller caliber gun ammunition. Critical roles such as shell filling and ordnance testing also continued.

Of particular importance, St. Juliens was the main assembly plant for ammunition for the highly successful 20 mm Okerlin antiaircraft gun. Later in the war, the Depot opened a new line to manufacture shells for the 40 mm Boffer antiaircraft guns. Before the war was over,

St. Juliens continued on page 14

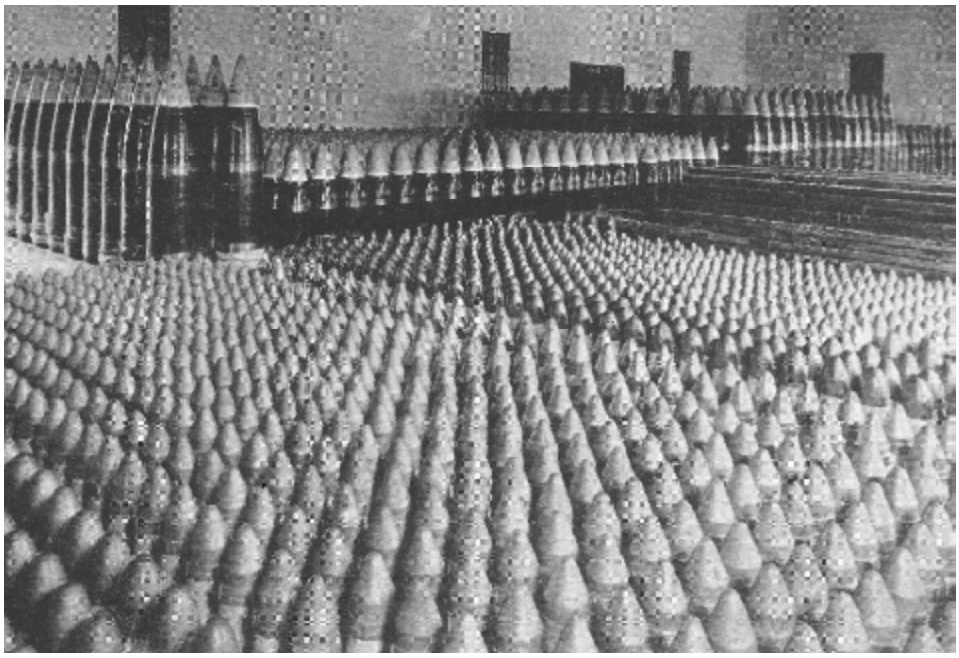
St. Juliens continued from page 13

the Bureau of Ordnance estimated that the Navy manufactured over one *billion* 20mm bullets. As a result of the high demand, even a facility such as St. Juliens could not keep up, and much of the 20 mm shell assembly was outsourced to private contractors.

Even with some of the assembly outsourced, St. Juliens remained one of the few facilities able to load the ammunition on to cargo ships. Before the construction of other East Coast Navy facilities in 1940s, St. Juliens was the only depot along the Atlantic coast that had the wharf space available for ammunition loading on Liberty ships.

The Bureau of Ordnance decided to improve the Depot's port facilities and awarded a contract on March 15, 1944 for the construction of a deep-water marginal wharf. Projections called for twenty-five thousand tons of ordnance to be shipped monthly with the improvements. Numerous other new buildings and structures were also constructed to meet the increased wartime demands on the Depot's capabilities. Barracks, for the large number of U.S. Naval personnel assigned to St. Juliens Creek Annex, continued to be constructed throughout 1943.

Other improvements included technological upgrades, keeping the facility a center for Naval ordnance activities throughout World War II. Among the technological improvements introduced were a power driven defusing and deplugging machine for disassembling ordnance, explosive "D" removal lathes for taking explosives out of shells, and tank rolling machines. In all, new magazines for ordnance storage, a "D" explosive loading plant, a barracks, support structures and ninety-two structures for shell-filling, storage and shipping were built during World War II.



Along with the assembly of ammunition, St. Juliens was a major storage facility until loading teams could place them on board cargo vessels, usually Liberty ships. (U.S. Navy/ Bureau of Ordnance photo)

The loading buildings for explosive "D" in particular required the construction of special equipment and buildings so that it could be loaded in bulk after being sifted and screened to rid it of foreign matter before it was used. Some older buildings were also converted to serve as 20 mm cartridge filling houses. By the end of World War II in 1945, the Depot had reached its approximate current size of over 489.5 acres.

Cost for expanding the facilities at St. Juliens continued to rise throughout World War II. From December 1941 until September 1943, a total of $4,200,000 was spent on equipment and rolling stock for the Depot. Seven hundred and seventy-seven thousand dollars was spent for the construction of twenty-two new magazines. Other construction expenditures included $212,000 for the explosive "D" loading plant, $203,000 for a dock storehouse, $21,000 for a locomotive shed, $122,000 for 1.1-inch tracer bullet loading and 20 mm shell loading building, $65,000 for a powder stacking and filling house, $65,000 for a garage and fire station, $36,000 for a dispensary, $84,000 for a Marine barracks, $73,000 for a new Bachelor Officer's Quarters and $103,000 for the construction of seven new mess halls.

This seemingly nondescript building is where Explosive D was handled and manufactured at St. Juliens. Explosive "D," or ammonium pictrate, was used as a bursting charge for armor piercing shells and as a solid fuel propellant in rockets. (U.S. Navy photo)

Occupying and working in the new buildings was an increasingly large number of civilians. The number of civilians needed to run the Depot increased throughout the entire World War II era. Starting with 1,059 civilian employees in December 1941, the Depot's expanded mission resulted in over 2,128 civilians being employed by July 31, 1942. Of these, 29% were African-American. Two hundred twenty-eight women were also employed. In October of 1943, over 44% of the workers were African-American and 34% women. The total payroll during this period was 3,540 workers. Additionally, African-American sailors were assigned to the Depot in increasing numbers. Five of the new barracks at St. Juliens quartered African-American enlisted men. African-American enlisted men were used in the handling gangs throughout the Depot, while civilian labor worked in the filling operations.

After World War II, Naval Ammunition Depot St. Juliens continued to function as a shell-loading plant and as the primary test-loading facility for new gun ammunition models. An explosion in 1970

St. Juliens continued on page 15

St. Juliens continued from page 14

convinced the Navy that St. Juliens Creek Annex was too close to residential areas for safety. On January 1, 1970, the Naval Ammunitions Depot, St. Juliens was redesignated as an Annex of Naval Weapons Station, Yorktown and renamed St. Juliens Creek Annex. Five years later, all ordnance production, handling and storage activities were transferred to the Naval Weapons Station, Yorktown. Since the 1980s, many of the buildings at St. Juliens Annex have been used as warehouses. Numerous buildings are vacant while others have been taken over by "squatter" commands. Currently, St. Juliens Creek Annex houses buildings used for technical libraries, administrative duties, Naval Sea System Command support, storage, cryogenics schools, repair shops, warehouses and labs.

Shown above is one of the many assembly buildings at St. Juliens. Plain in nature, the buildings manufactured millions of shells and weapons used by the Navy in both World Wars. During World War II, the Navy hired several hundred women, like the ones shown at right working at an Army facility, to assemble 20 mm and 40 mm ammunition. (U.S. Navy photo, top, U.S. Army photo, left)

St Juliens Creek Annex is currently listed as an Historic District in the Navy Region Mid-Atlantic *Programmatic Agreement for the Navy's Historic Buildings in Hampton Roads,* which was signed by the Commander, Navy Region, Mid-Atlantic in November 1999. While St. Juliens Creek Annex meets the National Register of Historic Sites Criteria A and C, it has not been listed on the Register, nor has it been nominated for listing. The Mid-Atlantic District has given St. Juliens Creek Annex a Historic District Preservation Priority Rating of Category 2.

A Category 2 historic preservation priority rating indicates that the district retains good, but somewhat compromised, integrity of features that define its sense of place. A Category 2 historic preservation priority rating also means that the district warrants active preservation efforts if such preservation efforts does not seriously impede an installation's activities or mission. Currently, the Navy and the Virginia State Historic Preservation Office are working together to develop a workable preservation strategy for this important cultural resource.

There are several sources for more information about St. Juliens Annex including several historic preservation surveys open for public viewing. All of these works may be found at the museum. They include:

Programmatic Agreement for the Navy's Historic Buildings in Hampton Roads, Commander Navy Region Mid-Atlantic, Nov. 1999.

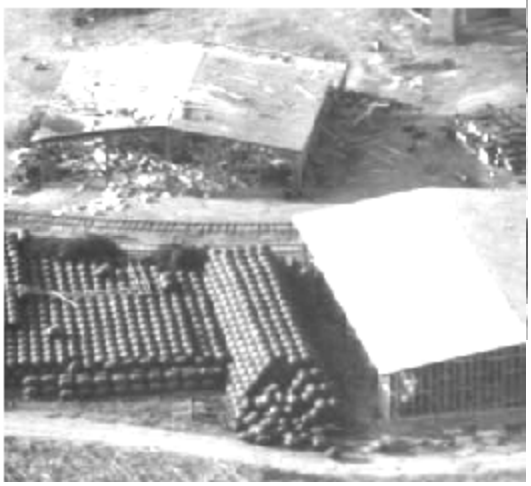
HABS Level III – Type Documentation, Buildings 13, 20, 64, 65, 66, 67, 96, M-2, St. Juliens Creek Annex, Chesapeake, Virginia, Feb. 2004. Prepared by Sadler & Whitehead Architects, PLC, Richmond, Virginia.

Federal Owned Real Estate- Under The Control Of The Navy Department, 1942. Issued by the Bureau of Yards and Docks.

Building the Navy's Bases in World War II, History of the Bureau of Yards and Docks and the Civil Engineer Corps 1940 – 1946, Volume I, 1947

An African-American sailor is shown here at the loading piers at St. Juliens. African-Americans worked as ammunition handlers at the Annex and many of the Navy's ammunition handling and manufacturing facilities during World War II. (U.S. Navy/ Bureau of Ordnance photo)

A Near Disaster



The Navy stored thousands of mines out in the open during World War II at what is now known as the Yorktown Naval Weapon Station. This particular photo was taken on November 16, 1943. Notice the crater and burnt trees at the top of the photo. Additionally, notice the number of mines that have been knocked off their stacks (inset photo at right). Fortunately, none of the mines exploded. (U.S. Navy photo)

In The Next Issue...

- *Keeping the Peace:* Cumberland*'s Second and Third Cruise to the Mediterranean*

- *Book Reviews:* Stephen Decatur: A Life Most Bold and Daring *and* Rage of Honor: A Biography of Stephen Decatur