



Phase II and Phase III Archaeological Database and Inventory

Site Number: 18PR226

Site Name: Turtle Shell Wreck

Prehistoric

Other name(s) (possibly USS Scorpion), "Target 11", "1-TSW"

Historic

Brief Description:

Early 19th century wooden shipwreck, likely part of the War of 1812 Joshua Barney Flotilla

Unknown

Site Location and Environmental Data:

Maryland Archaeological Research Unit No. 8

SCS soil & sediment code n/a

Latitude 38.8198

Longitude -76.6962

Physiographic province Western Shore Coastal

Terrestrial site

Underwater site

Elevation m

Site slope 0

Ethnobotany profile available

Maritime site

Site setting

-Site Setting restricted

-Lat/Long accurate to within 1 sq. mile, user may need to make slight adjustments in mapping to account for sites near state/county lines or streams

Topography

- Floodplain
- Hilltop/bluff
- Interior flat
- Upland flat
- Ridgetop
- Terrace
- Low terrace
- High terrace
- Rockshelter/cave
- Hillslope
- Unknown
- Other
- Submerged

Ownership

- Private
- Federal
- State of MD
- Regional/county/city
- Unknown

Nearest Surface Water

Name (if any) Patuxent River

Saltwater

Ocean

Estuary/tidal river

Tidewater/marsh

Freshwater

Stream/river

Swamp

Lake or pond

Spring

Minimum distance to water is 0 m

Temporal & Ethnic Contextual Data:

Paleoindian site

Woodland site

Contact period site

ca. 1820 - 1860

Archaic site

MD Adena

ca. 1630 - 1675

ca. 1860 - 1900

Early archaic

Early woodland

ca. 1675 - 1720

ca. 1900 - 1930

Middle archaic

Mid. woodland

ca. 1720 - 1780

Post 1930

Late archaic

Late woodland

ca. 1780 - 1820

Unknown historic context

Unknown prehistoric context

Unknown context

Ethnic Associations (historic only)

Native American

Asian American

African American

Unknown

Anglo-American

Other

Hispanic

Y=Confirmed, P=Possible

Site Function Contextual Data:

Prehistoric

- Multi-component
- Village
- Hamlet
- Base camp
- Rockshelter/cave
- Earthen mound
- Cairn
- Burial area
- Misc. ceremonial
- Rock art
- Shell midden
- STU/lithic scatter
- Quarry/extraction
- Fish weir
- Production area
- Unknown
- Other context

Historic

Urban/Rural? Rural

Domestic

- Homestead
- Farmstead
- Mansion
- Plantation
- Row/townhome
- Cellar
- Privy

Industrial

- Mining-related
- Quarry-related
- Mill
- Black/metalsmith
- Furnace/forge
- Other
- Transportation
- Canal-related
- Road/railroad
- Wharf/landing
- Maritime-related
- Bridge
- Ford
- Educational
- Commercial
- Trading post
- Store
- Tavern/inn

Military

- Battlefield
- Fortification
- Encampment

Townsite

- Church/mtg house
- Ch support bldg

Burial area

- Cemetery
- Sepulchre
- Isolated burial

Bldg or foundation

- Possible Structure

Post-in-ground

Frame-built

Masonry

Other structure

Slave related

Non-domestic agri

Recreational

Midden/dump

Artifact scatter

Spring or well

Unknown

Other context

submerged vessel, disassociated pier deck?

Interpretive Sampling Data:

Prehistoric context samples

Soil samples taken

Flotation samples taken

Other samples taken

Historic context samples

Soil samples taken U

Flotation samples taken U

Other samples taken Wood identification, 2011



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Diagnostic Artifact Data:

Projectile Point Types		Koens-Crispin	
Clovis	<input type="checkbox"/>	Perkiomen	<input type="checkbox"/>
Hardaway-Dalton	<input type="checkbox"/>	Susquehana	<input type="checkbox"/>
Palmer	<input type="checkbox"/>	Vernon	<input type="checkbox"/>
Kirk (notch)	<input type="checkbox"/>	Piscataway	<input type="checkbox"/>
Kirk (stem)	<input type="checkbox"/>	Calvert	<input type="checkbox"/>
Le Croy	<input type="checkbox"/>	Selby Bay	<input type="checkbox"/>
Morrow Mntn	<input type="checkbox"/>	Jacks Rf (notch)	<input type="checkbox"/>
Guilford	<input type="checkbox"/>	Jacks Rf (pent)	<input type="checkbox"/>
Brewerton	<input type="checkbox"/>	Madison/Potomac	<input type="checkbox"/>
Otter Creek	<input type="checkbox"/>	Levanna	<input type="checkbox"/>

Prehistoric Sherd Types

Marcey Creek	<input type="checkbox"/>	Popes Creek	<input type="checkbox"/>	Shepard	<input type="checkbox"/>	Keyser	<input type="checkbox"/>
Dames Qtr	<input type="checkbox"/>	Coulbourn	<input type="checkbox"/>	Townsend	<input type="checkbox"/>	Yeocomico	<input type="checkbox"/>
Selden Island	<input type="checkbox"/>	Watson	<input type="checkbox"/>	Minguannan	<input type="checkbox"/>	Monongahela	<input type="checkbox"/>
Accokeek	<input type="checkbox"/>	Mockley	<input type="checkbox"/>	Sullivan Cove	<input type="checkbox"/>	Susquehannock	<input type="checkbox"/>
Wolfe Neck	<input type="checkbox"/>	Clemson Island	<input type="checkbox"/>	Shenks Ferry	<input type="checkbox"/>		
Vinette	<input type="checkbox"/>	Page	<input type="checkbox"/>	Moyaone	<input type="checkbox"/>		
				Potomac Crk	<input type="checkbox"/>		

Historic Sherd Types

Earthenware		Ironstone		Staffordshire		Stoneware	
Astbury	<input type="checkbox"/>	Jackfield	<input type="checkbox"/>	Tin Glazed	<input type="checkbox"/>	English Brown	<input type="checkbox"/>
Borderware	<input type="checkbox"/>	Mn Mottled	<input type="checkbox"/>	Whiteware	<input type="checkbox"/>	Eng Dry-bodied	<input type="checkbox"/>
Buckley	<input type="checkbox"/>	North Devon	<input type="checkbox"/>	Porcelain	<input type="checkbox"/>	Nottingham	<input type="checkbox"/>
Creamware	<input type="checkbox"/>	Pearlware	<input type="checkbox"/>			Rhenish	<input type="checkbox"/>
	1					Wt Salt-glazed	<input type="checkbox"/>

All quantities exact or estimated minimal counts

Other Artifact & Feature Types:

Prehistoric Artifacts		Other fired clay	
Flaked stone	<input type="checkbox"/>	Human remain(s)	<input type="checkbox"/>
Ground stone	<input type="checkbox"/>	Modified faunal	<input type="checkbox"/>
Stone bowls	<input type="checkbox"/>	Unmod faunal	<input type="checkbox"/>
Fire-cracked rock	<input type="checkbox"/>	Oyster shell	<input type="checkbox"/>
Other lithics (all)	<input type="checkbox"/>	Floral material	<input type="checkbox"/>
Ceramics (all)	<input type="checkbox"/>	Uncommon Obj.	<input type="checkbox"/>
Rimsherds	<input type="checkbox"/>	Other	<input type="checkbox"/>

Prehistoric Features

Mound(s)	<input type="checkbox"/>	Storage/trash pit	<input type="checkbox"/>
Midden	<input type="checkbox"/>	Burial(s)	<input type="checkbox"/>
Shell midden	<input type="checkbox"/>	Ossuary	<input type="checkbox"/>
Postholes/molds	<input type="checkbox"/>	Unknown	<input type="checkbox"/>
House pattern(s)	<input type="checkbox"/>	Other	<input type="checkbox"/>
Palisade(s)	<input type="checkbox"/>		
Hearth(s)	<input type="checkbox"/>		
Lithic reduc area	<input type="checkbox"/>		

Lithic Material

Fer quartzite	<input type="checkbox"/>	Sil sandstone	<input type="checkbox"/>
Jasper	<input type="checkbox"/>	Chalcedony	<input type="checkbox"/>
Chert	<input type="checkbox"/>	Ironstone	<input type="checkbox"/>
Rhyolite	<input type="checkbox"/>	Argilite	<input type="checkbox"/>
Quartz	<input type="checkbox"/>	Steatite	<input type="checkbox"/>
Quartzite	<input type="checkbox"/>	Sandstone	<input type="checkbox"/>
		European flint	<input type="checkbox"/>
		Basalt	<input type="checkbox"/>
		Unknown	<input type="checkbox"/>
		Other	<input type="checkbox"/>

Dated features present at site

Early 19th century submerged vessel

Historic Artifacts		Tobacco related	
Pottery (all)	<input type="checkbox"/>	Activity item(s)	<input type="checkbox"/>
Glass (all)	<input type="checkbox"/>	Human remain(s)	<input type="checkbox"/>
Architectural	27	Faunal material	<input checked="" type="checkbox"/>
Furniture	<input type="checkbox"/>	Misc. kitchen	11
Arms	<input type="checkbox"/>	Floral material	<input checked="" type="checkbox"/>
Clothing	1	Misc.	30
Personal items	<input type="checkbox"/>	Other	<input type="checkbox"/>

Historic Features

Privy/outhouse	<input type="checkbox"/>	Depression/mound	<input type="checkbox"/>	Unknown	<input type="checkbox"/>
Const feature	<input type="checkbox"/>	Burial(s)	<input type="checkbox"/>	Other	<input checked="" type="checkbox"/>
Foundation	<input type="checkbox"/>	Trash pit/dump	<input type="checkbox"/>	submerged vessel remains	
Cellar hole/cellar	<input type="checkbox"/>	Sheet midden	<input type="checkbox"/>		
Hearth/chimney	<input type="checkbox"/>	Planting feature	<input type="checkbox"/>		
Postholes/molds	<input type="checkbox"/>	Road/walkway	<input type="checkbox"/>		
Paling ditch/fence	<input type="checkbox"/>				

All quantities exact or estimated minimal counts

Radiocarbon Data:

Sample 1: +/- years BP Reliability Sample 2: +/- years BP Reliability Sample 3: +/- years BP Reliability

Sample 4: +/- years BP Reliability Sample 5: +/- years BP Reliability Sample 6: +/- years BP Reliability

Sample 7: +/- years BP Reliability Sample 8: +/- years BP Reliability Sample 9: +/- years BP Reliability

Additional radiocarbon results available



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Unknown

External Samples/Data:

Collection curated at MAC, Calvert Marine Museum

Additional raw data may be available online

Summary Description:

The Turtle Shell Wreck (18PR226), also known as "Target 11" or "1-TSW", is the wreckage of an Early 19th century wooden shipwreck believed to be a part of the War of 1812 Joshua Barney Flotilla. It is believed to be the remains of one of the two larger flotilla vessels, either Barney's flagship, the USS Scorpion or the converted merchant vessel, the Islet. The site is situated above Pig Point directly in the channel on the west bank of the Patuxent River in Prince George's County, not far from Waysons Corner in Anne Arundel County. The vessel is submerged in approximately 1.83 m (6 ft) of water, within a matrix of deep, but loose sand and thin layers of clay in some areas that have helped to preserve the wreck.

Site 18PR226 is believed to be a largely intact vessel from the Chesapeake Flotilla of the War of 1812. This war is most significant as the agent that caused the young United States to coalesce into a real, unified country. The Flotilla was under the command of Baltimore-born Joshua Barney, a hero of the Revolutionary War, who came out of retirement to take command. The Flotilla was scuttled August 22nd, 1814 to prevent its capture by the pursuing British and so the sailors could march to Bladensburg to aid in the defense of Washington. Many of the vessels and their contents were salvaged shortly after scuttling of the ship, however, historic documentation suggests that the hull of flotilla flagship, the USS Scorpion, remained unsalvaged.

The site was first identified in 1979 during the course of a maritime archeological survey of the Patuxent River using an Elsec Type 592 magnetometer. An anomaly was identified at the site location in June of that year and divers were dispatched to pinpoint the site by hand-directing the magnetometer sensor. The site was found directly in the channel close to the western shore of the river in approximately 1.83 m (6 ft) of water. However, depth varied over a period of the few days the site was under investigation because of shifting of sands on the bottom resulting from the occasional high-energy currents. The sand was relatively loose as a result of this constant shifting, and deep probing with iron rods was possible. As a consequence of a systematic probing operation, a site between 15.24 and 22.9 meters (50 and 75 feet) in length, lying in a northerly direction and slightly angled across the narrow channel, was identified.

During the examination, two timbers were discovered protruding approximately 46 cm (18 in) above the bottom. They were initially overlooked because of their similar appearance to sanded-over tree branches which had been found elsewhere during the survey. However, upon closer inspection, it was discovered that the wood appeared as it did because its surface had been eroded by constant waterflow.

An effort was made to excavate a test pit around the timbers using a small water pump, which resulted in the discovery of three wrought-iron spikes penetrating the wood. Though badly corroded, the spikeheads had the characteristic rose-head shape of nails and spikes produced ca. 1790-1820. It was also noted that the undersides of the timbers were squared off, and were areas which had obviously not faced the eroding force of the current. An effort was made to penetrate an area to the east of the timbers, in waters only 1.52 m (5 ft) deep. Here the pump hose, which was also used as a probe, struck a solid object 1.52 m below the surface. However, as a consequence of the heavy current flow, it was not possible to widen the pit enough to permit inspection by touch. A third area to the south of the second pit was examined. Here too, a solid obstruction was encountered beneath 1.52 m of sand. Examination of the sides of the hole while water was being pumped resulted in the recovery of the only artifact taken from the site, a broken turtle shell. Hence the site was referred to as the Turtle Shell Wreck.

The site's position corresponded to reports gathered later in the season from local residents, that this exact area was the location of two sunken vessels. However, it was still uncertain whether or not the structure represented a shipwreck or some other cultural deposit, such as a disassociated pier deck. The presence of the wrought iron spikes, however, indicated that the object was probably of early-19th-century construction which had been submerged long enough for its exposed sections to experience severe erosion of their surfaces.

Phase II testing of the site commenced in June of 1980, and included dredging with a hydrodredge, an airlift, and a common "trash" pump dredge. A high-resolution low-light underwater video was made, as well as a surface video. A floating operations platform was constructed of four barges, incorporating a floating silt-box. An iron grid system was constructed. To confirm the conjectured lie of the site as established during the 1979 investigation, to verify its relative condition, and to discover the locale in which excavation would prove the most appropriate, it was decided that a small test pit should be excavated prior to any large-scale excavation. Before construction could begin on the small coffer dam (necessary to shelter the excavation area from river current and to prevent silting in of the test site), a series of water-jet probes was to be carried out over several lateral lines to assist in the selection of an appropriate test-pit site. During initial probing operations, and in the course of later probing operations, the probe encountered a number of solid obstacles, some fairly shallowly buried bottom, others as much as 2.4 or 3 m (8 or 10 ft) below the river bottom. On several occasions the probe struck obstacles, rebounded several times owing to the force of the waterjet against the object, but then passed entirely through it as if in sand. It was later discovered that what had occurred, unfortunately, was that the probe had penetrated to a section of the wreck, but the wood which it had encountered had deteriorated to such an extent that repeated probing resulted in the perforation of the wood. Despite the minor injury to the site in this manner, without either a jet-assisted probe or a vibraprobe, evaluation of the immediate parameters sought would have been considerably delayed, if not entirely impossible.

Upon determination of the site, the main portion of which appeared to lie between 76 cm (2.5 ft) and 1.52 m (5 ft) below the bottom of the main river channel at a depth of 2.4 m (mean low water), the construction of a small temporary coffer dam was begun, followed by excavation of the overburden. This revealed timbers (a large beam and some planking) and a tree limb, as well as a concentration of fresh-water clam shells. Also recovered were a number of peach pits, a piece of flint shatter (possibly a flint for a flintlock rifle), and a wrought planking spike. This spike protruded from beneath the edge of a plank, with the point extending upward, and had obviously been meant to attach another timber at that point. A larger, boat-shaped coffer dam was then constructed, to provide divers with shelter from the high-energy currents and improve visibility within its confines by allowing silt to settle enough, it was hoped, to permit underwater photography. The smaller coffer dam was then removed. As excavation proceeded, the coffer dam was added to and patched. During one of the patch operations, a stitched piece of leather, initially believed to be a reinforced backing for a military shoulder epaulet, was recovered.

Actual excavation proved difficult. The hydrodredges didn't work properly and the airlift was only marginally useful on a site as shallow as this. It was also necessary to provide air for the lift from the single air compressor on the operations barge, and this, as a consequence, limited the volume and pressure necessary to supply more than two divers and the lift simultaneously. Therefore, the 3" trash pump was employed for most of the excavation. Despite an intake guard, small artifacts were sucked into the pump and damaged, and the hoses had to be continually unclogged. The pump was limited to the excavation of sand, silt, gravel, shells, or small rip rap, but was totally unsuitable for use in clay. Excavation in clay had to be done by hand, frequently employing small hand-held instruments and traditional archeological trowels. Unfortunately, the greatest concentration of artifactual material was encountered in clay deposits within the hull of the ship.



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Prehistoric

Other name(s) (possibly USS Scorpion), "Target 11", "1-TSW"

Historic

Brief

Description:

Early 19th century wooden shipwreck, likely part of the War of 1812 Joshua Barney Flotilla

Unknown

The excavation area encompassed the entry into the hold of a vessel which was in an excellent state of preservation and possessed unique structural integrity. As excavation progressed, it became unexpectedly apparent that the sediments which filled the vessel's hold possessed an easily discernible stratigraphy, suggesting that the hull itself and its contents had progressed through at least four distinct phases as it settled into the main river channel over a long period of time.

The Turtle Shell Wreck was found to be very well preserved, and provided an abundance of data concerning the vessel's construction and architecture, and the modes of deployment it underwent during its period of service. Excavation focused primarily on a section of the vessel determined to be a hold, though some work was undertaken along part of the deck on the western side of the site, within stowage compartments on the east side, and in what is believed to have been the bow, on the south end of the site. The total length of the site was determined to be 14.8 m (48 ft, 7 in), and the width, or beam was 4.9 m (16 ft). The vessel was exactly 91 cm (3 ft) deep in the hold. The craft appeared to be relatively flat-bottomed, with interior floor planking running lengthwise but raking in sharply toward the bow. This quite abrupt angle of rake begins at the main southern bulkhead. The exact angle of rake, however, could not be determined, nor could the turn of the bow be ascertained, as that section was only partially excavated, and the disassembled lie of the frames were encountered in that section.

An effort was made to positively determine whether the south end of the wreck was in fact the bow or the stern. A search was carried out inside and outside the main coffer dam in hopes of locating a rudder, gudgeon strapping, a sternpost, or any recognizable indication that the section was the stern. Absolutely nothing was found that might indicate the area was the stern, but considerable artifactual evidence, namely the presence of certain carpentry equipment and naval gear which would normally have been located forward in a vessel, was recovered. It is thus conjectured that this area was, in fact, part of the bow assembly. Thus, the vessel lay facing downriver.

Attached to the port (or east) side of the bulkhead were the remains of three large planks 2.54 cm X 25.4 cm (1" x 10") in thickness and width which project southward toward the bow area. The absence of planning on the starboard side, combined with the fact that visible nails were bent and distorted and the ends of the planks on the port side were broken, suggest that decking once extended southward from this bulkhead over at least a portion of the bow, but had been ripped away by some violent force, possibly an explosion or collision.

Artifacts recovered were mainly found clustered in the port stowage section. Either they had been stored in this location, or settled there following the explosion and sinking. Several pieces of ceramic ware, notably a plate, two bowls, and a jar, were recovered stacked together at the foot of the stowage area, lying against a board at an angle, thus suggesting that the items had slid from the compartment gradually rather than violently. A clustering of surgical instruments and pharmaceutical bottles was of great interest, especially since their localized positions coincided with the presence of hinges and a small lock similar to types used for surgical field kits. The presence of large concentrations of wood fragments in the immediate vicinity of the instruments, coated with a smooth substance on one side (probably a varnish or a like substance), suggests that the instruments had originally been enclosed in a wooden container now collapsed. One instrument, a pair of surgical scissors, was even recovered with fragments of the wood against which it had lain for years adhering to one side of it. The discovery of the bottom half of a small flat wooden box in the central hold area, containing a pharmaceutical bottle, reinforced the theory that the instruments and bottles had been encased in one or more military surgeon's field kits. The surgical instruments recovered were primarily of two types: dental and general surgical. The dental instruments, such as a toothkey and forceps, were specifically of the type employed in tooth extraction.

The surgical instruments consist of approximately half of the bare minimum items of a surgeon's field kit, suitable for limited surgical operations such as those resulting from military confrontations. Several items, such as bullet forceps, bistoury blades, cauterizers, and probes pointedly suggest the probable military nature of the surgeon's kit. The instruments recovered were primarily of European manufacture. Inscriptions carved upon the blades or handles of many instruments indicate variations of the name Nowill. The name appears variously as Nowil, Xowil, and Nowill. These instruments were probably the product of the firm of Hague and Nowill, makers of fine surgical instruments, whose base of operations was at 7 Meadow Street, Sheffield, England. The Nowill firm was founded in 1700 when Thomas Nowill began the production of surgical instruments, becoming the first in a family line of instrument makers. The line concluded with the firm of Hague and Nowill ca. 1800. It has also been suggested, though not verified, that the instruments may have been the product of a French firm of similar name which produced surgical tools and watches.

A second name, Evans, was noted impressed into one instrument, with a small crown appearing after the name. This was a product of the firm of John Evans & Co. of 10 Old Change, London. The Evans firm may have originated as early as 1676 with John Evans, a blacksmith, who began producing surgical instruments, probably as a sideline. In 1783 David Evans (later David Evans & Co.), the first of the Evans name known to operate from the Old Change address, is noted as a surgical instrument maker. Significantly, the John Evans firm served as the principal suppliers of surgical instruments to the Royal Navy ca. 1812. Instruments supplied to the Royal Navy were marked with a crown after the Evans name. The presence of so many medical instruments suggests that a complete surgical set was aboard at the time the vessel sank.

The presence of several pharmaceutical bottles (at least one containing the remains of its contents) and a chamber pot support the theory that this particular vessel served as a hospital ship. Of the vessels destroyed above Pig Point with the flotilla, two could have served in this capacity. One was a merchant schooner, the Islet, belonging to one William O'Neal of Washington, D.C., which had been enlisted to serve as an ordnance supply ship. The other was Commodore Joshua Barney's flagship, the USS Scorpion, noted as a large topsail sloop, a black sloop, and a large cutter. Scorpion was the first vessel to be blown up and sunk on August 22, 1814 above Pig Point.

Many military-related artifacts were recovered from the site, including swivel or grape shot, a gunner's pick, a swivel gun grip, a musket ball, musket flints, and a boiled leather item believed to be a soldier's bayonet frog, an accoutrement for carrying a bayonet. Cannons were removed from the wrecks shortly after the flotilla's sinking. The swivel gun grip and the gunner's pick were recovered in close proximity to each other and to the forward port side of the vessel, just abaft the main forward deck support beam. The pin is of such a short length that it would have been insufficient to service a large-bore cannon, but it would have proved quite adequate for a small-bore swivel gun. One of the small-bore shot recovered, apparently an expended swivel gun shot, was recovered with a section of wood against which it had impacted still wrapped tightly around it. Another was of such an imperfect mold that it would have been impossible to fire individually from a swivel gun, but it could have easily been employed in a canister of grape. A single musket shot was discovered associated with the bullet forceps, but was unfortunately lost during transfer from the water to the operations platform. Three musket flints (one of which was the first artifact retrieved) were likely among those procured in May 1814 according to the purser's expense list for the flotilla.

Carpentry tools were encountered in the forward section of the hold, and included a plane blade, a draw knife, and a tool which probably served as some sort of punch. A large lump of claylike substance in association with several small barrel staves may have been hardened white paint. Other heavy iron instruments were noted in the same section from which the carpentry tools were recovered and are believed to be additional tools. These were left in situ.



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Domestic artifacts included a coin (an American Liberty head copper penny dated 1803), leather fragments (possibly from a shoe), a wooden shoe heel, ceramic bowls, water jugs, eating and drinking utensils, and a portable galley stove. One of the drinking utensils was a ½-pint tin-plated drinking cup, probably a grog ration cup, with numerous decorations scratched on its surface, including the initials "CW", which may stand for Caesar Wentworth, a cook. Several other items which relate to the ship's mess activity include a creamware plate, the remains of a fork, and a tea tin. A Philadelphia ware plate, several bowls, and jars (one with a wooden bung) may have served as mess dishes, but were more than likely employed as apothecary items. A single blue-and-gray stoneware inkwell was recovered from the same vicinity as the surgical instruments. The artifact was intended for the use of quilled pens and is pierced with small holes around its crown for such use. A small stamped brass button inscribed "STAND & COLE LTD. LONDON" (1800-1830) is among the clothing items. Two padlocks were found locked together, and bearing the black paint or lacquer with which they were originally coated. Other items, deemed naval in character, were a sounding lead, a pulley block, and a tin-plated lantern. Several unidentified items were recovered, including a worked stingray plate with a tiny hole pierced through its width, possibly part of a necklace or bracelet, and possibly of aboriginal origin. This item may not have actually been associated with the ship. Architectural items included wrought nails and wooden trim.

During the excavation of the Turtle Shell Wreck, six taxa of plants (nuts and seed pits), two taxa of invertebrates (snail and clams), and four taxa of vertebrates (bones and teeth) were recovered. It is believed that the majority of these were recovered from an organic-rich level just above the clay and below the sand layers, and are thus not contemporaneous with the sinking of the wreck. However, three peach pits and a plum pit were recovered, which may have been part of the ship's foodstuffs.

Conservation of the recovered materials took place at the J.C. Lore Oyster House in Solomons. Cleansing and treatment commenced in July of 1980. The assemblage included at least 17 dental and surgical activity items (a toothkey, forceps, bullet forceps, bistoury blades, cauterizers, surgical probes, and 8 pharmaceutical bottles, including one with contents), at least 4 carpentry activity items (a plane blade, a draw knife, a concretion of white paint, and other large tools left in place), 1 writing activity item (a stoneware inkwell), 3 other nautical activity items (a sounding lead, a pulley block, and a tin-plated lantern), at least 10 architectural objects (wrought nails and molded trim), at least 4 clothing items (a stamped brass button, leather fragments and a wooden shoe heel), at least 19 kitchen-related artifacts (a creamware plate, a Philadelphia ware plate, ceramic bowls, water jugs, several bowls and jars, eating and drinking utensils, a portable galley stove, a tin-plated drinking cup, a fork, a tea tin, 3 peach pits and a plum pit), at least 8 arms objects (swivel or grape shot, a gunner's pick, a swivel gun grip, a musket ball, musket flints, and a possible bayonet frog), 4 personal items (2 padlocks, an 1803 penny, a chamber pot), and 1 miscellaneous object (a pierced ray plate...possibly aboriginal). The excavation played a major role in spurring the State of Maryland to build an artifact conservation lab at the Jefferson Patterson Park and Museum in St. Leonard. Items from the 1980 excavations are on display at the NHC's Underwater Archaeology Branch, the National Museum of the U.S. Navy, and the Calvert Marine Museum.

In 1995, MHT sponsored an effort to locate the remaining vessels of Joshua Barney's flotilla as part of the Chesapeake Flotilla Project. The search concentrated on two distinct areas, the upper reaches of St. Leonard's Creek, where documentary evidence indicated that two of Barney's gunboats, Gunboats No. 137 and 138, had been scuttled, and the so-called Hills Bridge Transect, the stretch of river above Pig Point where the flotilla was reported scuttled and where site 18PR226 is located. A series of survey and research projects were thus implemented that continued through 1999.

In April 1996, Maryland Maritime Archaeology Program (MMAP) of the MHT, with support from the Maritime Archaeological and Historical Society (MAHS), investigated both areas using magnetometry and side-scan sonar. The team utilized an EG&G dual frequency 100-500 kHz side-scan sonar unit and a Barringer M-234 Magnetometer, provided by MMAP, in conjunction with a Northstar 941XD global positioning system and a Loran system. This survey in the Hills Bridge Transect was aimed at locating potential additional wreck sites in the river as well as relocating the Scorpion site. Of the 33 magnetic anomalies and seven additional side-scan targets, 21 were deemed significant. Fourteen of these were investigated by divers, but none showed evidence of being a shipwreck. At that time, the wreck at site 18PR226 did not produce a signature in either the magnetometer or side-scan surveys. The depth of the wreck below the riverbed (approximately 1.5m (5 ft) during the 1980 excavation) left no significant features appearing at riverbed level for side-scan to record. However, the fact that it did not register on the magnetometer was problematic, as the site was originally discovered using that method. In St. Leonard's Creek, the survey team located the remains of one vessel, with a possible second nearby, but could not determine at the time if they were connected to Barney's flotilla.

In November 1996, further survey work was carried out in the Hills Bridge transect, using magnetometry, side-scan sonar, and ground penetrating radar (GPR). The side-scan unit was a Sea Scan PC. The Barringer M-234 magnetometer was once again used. The survey concentrated on the region between Hills Bridge and Mount Pleasant Landing as the most likely area to contain wrecks from Barney's flotilla. Side-scan sonar produced no likely targets. While a number of magnetometer targets were promising, GPR investigation showed only one, site 18PR226, to be consistent with a shipwreck. Further work was also done in St. Leonard's Creek as part of this survey, during which the extremities of the first vessel located in April (dubbed Vessel A) were determined.

In July 1997, an extensive hydroprobe survey was conducted along the Hills Bridge Transect. The probe was 1.9 cm (0.75 in) in diameter with a maximum depth of 6.1 m (20 ft). Seventy-six corridors, each 45.7 by 15.2 m (150 by 50 ft), were surveyed in grid formation, for a total of 5,700 locations tested. Aside from site 18PR226, no evidence of cultural remains was found. A detailed hydroprobe investigation of site 18PR226 was undertaken after the completion of this survey, in order to ascertain the overall extent of the site. The survey determined the wreck was 22.9 m (75 ft) long, 11.3 m (37 ft) wide, and oriented on a near north-south axis, with a surviving deck on both sides. At that time, the wreck was 0.8 to 1.2 m (2.5 to 4 ft) below the riverbed at deck level, and at least 2.4 m (8 ft) in the hold area.

After the research team undertook a review of historic maps and documents in August 1997, it was suggested that the main channel of the Patuxent lay further to the west in the early 19th century and that site 18PR226 lies in what was a small tributary channel that fed into the main channel. Working under the hypothesis that the remaining flotilla wrecks were located to the west of the site, under what are now wetlands, researchers returned to the area in September 1997 to conduct a GPR survey in hopes of finding evidence of wrecks beneath the soil. This effort was focused on the shoreline near the mouth of the Back Channel, which may represent the remains of the original main channel, approximately 1 km (0.6 mi) west of site 18PR226. Depth of detection was limited to 1.8 to 2.4 m (6 to 8 ft). A cluster of anomalies was found in the area which might indicate a group of artifacts, but it was not investigated further.

In February 1999, a further survey was conducted along the shore adjacent to site 18PR226 to search for evidence of the sunken flotilla using GPR and electromagnetic induction (EMI). A Subsurface Interface Radar (SIR) System-2 unit was used for the GPR data, along with an EM31 EMI unit from Geonics Limited with a theoretical observation depth of 3 to 6 m (9.8 to 19.7 ft). A GPR signature obtained over site 18PR226 was used as a benchmark and readings were taken approximately every 15.2 m (50 ft) for a total of 284 observation points. The grid was irregularly shaped, but was, at maximum 304.8 by 411.5 m (1,000 by 1,350 ft). While several anomalies were detected within the tested area, none were consistent with a shipwreck of the size of the lost flotilla barges.

In July of 2009 a remote sensing survey was once gain carried out along the Hills Bridge Transect of the Patuxent River. The area was chosen in order to validate previous remote sensing data and collect updated data of the location where marine archeological anomalies most likely associated with the War of 1812 were previously recorded. Acoustic data were collected using a Klein 595 digital side-scan sonar system and analyzed using Hypack's hydrographic



Phase II and Phase III Archaeological Database and Inventory

Site Number: 18PR226

Site Name: Turtle Shell Wreck

Prehistoric

Other name(s) (possibly USS Scorpion), "Target 11", "1-TSW"

Historic

Brief

Description:

Early 19th century wooden shipwreck, likely part of the War of 1812 Joshua Barney Flotilla

Unknown

survey suite. Magnetic data were collected using a Marine Magnetics Explorer magnetometer and analyzed using Hypack's single beam survey editor. Sub-bottom data were collected and analyzed using a SyQuest Stratabox sub-bottom profiler with embedded software. All data were integrated into maps using ESRI's ArcGIS software.

Six survey lines were collected along the Hills Bridge transect. Due to the narrowness of the river, no controlled lane spacing was possible. An attempt was made to space the lines by following the contours along the east and west shorelines. This did not produce even lane spacing, but provided enough separation in the magnetic data to allow for contour plotting.

An anomaly consistent with submerged cultural resources was identified in the vicinity of site 18PR226. It consisted of a multi-component magnetic anomaly with a maximum amplitude of 590 Gammas over a duration of 29 seconds and was detected over all six survey lines. It is co-located with an acoustic anomaly, however, the magnetic contour plot shows that the site is substantially larger than the area identified through the acoustic data. This suggests that the acoustic anomaly identified as the wreck may only be a small portion of it or debris that has accumulated at the location.

In December 2009, a topographic and bathymetric study of the Patuxent River was completed, focusing on the location of site 18PR226. The purpose of the study was to improve understanding of the wreck site and prepare for future archeological investigations, as well as to complete an engineering study pertaining to the placement of a potential cofferdam that would enable careful excavation of the site. The report includes a USGS map for Anne Arundel and Prince George's Counties, a topographic and bathymetric survey of site 18PR226, cross-sections of the river at that location, and a proposed cofferdam construction drawing. The data gathered from this survey provided valuable information about the site environment. The river profiles, in particular, were used in developing an excavation plan and accessing the placement of operations barges for future investigations.

In the summer of 2010, a team of archeologists from MHT, NHHC, and SHA (Maryland State Highways Administration) began work to relocate and identify the site. The primary goals were to confirm the location, determine the extent of hull and any possible artifact scatter around it, to assess the condition of the vessel, and to gather data on the environment that would serve in the logistical planning of a cofferdam. Another goal was to determine if the site featured only one wreck or multiple wrecks.

A magnetometer and hydroprobe survey were used to relocate the site. Once the general area was established, based on the presence of positive probing contacts, three test units were excavated; however, only two of the units contained physical remains of the vessel. Both units revealed very well-preserved deck planking, consistent in size and nailing patterns with what was described during the 1980s investigations. One unit came down on an opening into the hold where excavation took place in 1980. While time limits and site conditions did not permit excavation to the bottom of the hold, probing was conducted to determine the depth of hold and the interior curvature of the hull. The deepest measurement straight down from the edge of the deck down through the cabin was 1.1 m (3.5 ft). No clear hull curvature could be delineated, most likely due to obstructions within the vessel, such as shelves and partitions, but the probes did show that the test unit was located toward the western side of the hull. Due to the extensive decking and sedimentation encountered, no artifacts were recovered from inside the hull. One small wooden timber and a lead fishing weight were recovered from the level of the deck.

The 2010 excavation successfully relocated site 18PR226, established its continuing excellent state of preservation, but did not ascertain the full extent of the wreck at a resolution precise enough for the placement of a cofferdam. Therefore, an additional season of excavation was planned for 2011 to determine the exact dimensions of the wreck and its orientation in the river. Additional goals included locating any disarticulated sections of the wreck or artifact scatter, locating and documenting diagnostic areas of the hull, and determining if contemporary cultural material was still present within the wreck.

The MMAP conducted a gradiometer survey during October 2010 as a part of a NOAA grant to evaluate the suitability of the Marine Magnetics SeaQuest 3-Axis Gradiometer for the identification of historic shipwrecks. Data collected during this study were used to supplement previously collected magnetometer data. The survey area measured approximately 550 by 45 m (1804 by 147 ft) and transects were planned at 3 m intervals with offline distances not to exceed 2 m. Data were collected along transects multiple times and collected beyond the planned survey footprint to reduce offline distances and navigation errors. Data were post-processed by Marine Magnetics using Oasis Montaj software and used by MMAP to produce various models of the analytical signal using Surfur contouring and mapping software and plotted using ArcGIS.

The gradiometer recorded 18PR226 as a cluster of five magnetic anomalies distributed over an area measuring approximately 28 by 13 m (91 by 42 ft). It had an estimated ferrous mass over 1792 kilograms (3950 pounds) and a burial depth of 1.2 to 2.2 m (3.9 to 7.2 ft). A magnetic anomaly believed to represent an isolated object with a ferrous mass of 673 kg (1483 lbs) was recorded with a burial depth of 0.3 to 0.5 m (1.0 to 1.6 ft) approximately 16 m (52 ft) n

External Reference Codes (Library ID Numbers):

95001883, 95002513, Site Files