# INTERIM ASSESSMENT: 2014 USS *HOUSTON* (CA-30) DIVEX

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July 25, 2014







#### I. EXECUTIVE SUMMARY

Between 9-13 June 2014, a joint Dive Exercise (DIVEX) between the U.S. Navy (USN) and the Indonesian Navy (IND) was undertaken on the site believed to be the wreck of USS *Houston* (CA-30) as part of Cooperation Afloat Readiness and Training (CARAT) Indonesia 2014. The wreck is located in Banten Bay within the territorial waters of Indonesia. Data recovered during the operation is consistent with the identification of the wrecked vessel as USS *Houston* and also indicated systematic and ongoing unauthorized disturbance of the site.

#### II. BACKGROUND

USS *Houston* (Northampton-class) was a 600 FT-long heavy cruiser, launched in 1929 and sunk in combat during the Battle of Sunda Strait on 1 March 1942. The 2014 DIVEX aimed to verify the identity of the site and ascertain the ship's state of preservation in response to reported unauthorized disturbance activities in the vicinity. The United States considers title, right, and interest to its sunken military craft preserved unless expressly divested and therefore activities that disturb such craft require prior authorization. A wreath-laying ceremony took place on 11 June, presided over by the Deputy Chief of Mission to Indonesia, Ms. Kristen Bauer, commemorating the loss of life associated with the vessel's sinking, among the most costly in USN history (approximately 700 sailors and officers). Captain Rooks, killed in action, posthumously received the Medal of Honor for extraordinary heroism, while USS *Houston* was awarded two battle stars, as well as the Presidential Unit Citation.

# III. SUMMARY OF OPERATIONS

The U.S. Pacific Fleet, U.S. 7<sup>th</sup> Fleet, U.S. Task Force 73/Commander, Logistics Group Western Pacific, USNS *Safeguard*, Mobile Diving and Salvage Unit (MDSU) 1 Company 1-5, the Naval History & Heritage Command (NHHC), the U.S. Embassy in Indonesia, and the IND served as the primary DIVEX sponsors. USNS *Safeguard* departed Jakarta and arrived in the vicinity of the target in Banten Bay on 10 June, together with KRI *Sultan Thaha Syaifuddin* (STS-376). Side-scan operations successfully located the target and diving operations ensued. Over the course of 14 USN dives and approximately 5 IND dive excursions performed between 10 and 12 June, both ends of the wrecked vessel were marked with buoys, and the exposed port side, as well as the deck, were documented utilizing video recording. USNS *Safeguard* departed the site early on the morning of 13 June. Captain James Driver, CWO2 Jason Shafer, and MDV William Phillips, along with MDSU 1 Company 1-5 and the crew of USNS *Safeguard* performed admirably. Captain Ario Sasoneko and the crew of STS-376 ensured effective execution of the cursory site assessment, while IND divers successfully undertook among the most strenuous dives on site.

# IV. SUMMARY OF FINDINGS

Data recovered during the DIVEX was compared with available geo-spatial records, ship's plans, historical and archival information, eyewitness accounts, and expected identifiable features and battle damage. Whereas the duration of the DIVEX did not support a comprehensive site assessment, examination of all recovered data is consistent with the identification of the wrecked vessel as USS Houston. Furthermore, the DIVEX revealed and documented conclusive evidence of systematic unauthorized disturbance of the site. Evidence suggests ongoing unauthorized recovery of unexploded ordnance (UXO) from the vessel, raising public safety and security concerns. The active seepage of oil from the hull was also evident. Continued unauthorized disturbance may exacerbate either or both of these considerations, as well as potentially impact human remains present within or adjacent to the hull.

# V. HISTORICAL ACCOUNT OF USS HOUSTON

Dictionary of American Naval Fighting Ships excerpt

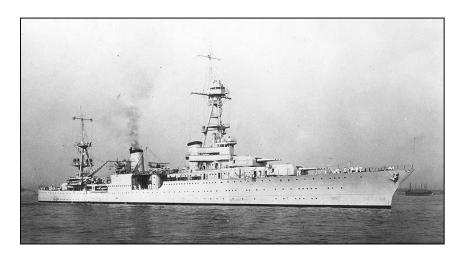


Figure 1: USS Houston during the 1930s. (NHHC Photo# NH53588)

"The second *Houston* (CA-30) was launched by Newport News Shipbuilding & Dry Dock Co., Newport News, Virginia, 7 September 1929; sponsored by Miss Elizabeth Holcombe, daughter of the mayor of Houston, Texas; and commissioned as CL-30 17 June 1930, Captain J. B. Gay commanding. Her designation was changed to CA-30, 1 July 1931.

After conducting shakedown cruise in the Atlantic *Houston* returned to the United States in October 1930. She then visited Houston, Texas, and joined the fleet at Hampton Roads. Steaming to New York, the cruiser departed 10 January 1931 for the Pacific, and after stopping at the Canal Zone and the Hawaiian Islands, arrived in Manila 22 February 1931. *Houston* became flagship of the Asiatic Station upon arrival, and for the next year participated in training operations in the troubled Far East.

With the outbreak of war between China and Japan in 1932, *Houston* got underway 31 January for Shanghai to protect American lives and property. She landed Marine and Navy gun platoons to help stabilize the situation and remained in the area, with the exception of a good will cruise to the Philippines in March and one to Japan in May 1933, until being relieved by *Augusta* 17 November 1933. The cruiser sailed to San Francisco to join the Scouting Force, and for the years preceding World War II participated in Fleet Problems and maneuvers in the Pacific. During this period *Houston* made several special cruises. President Roosevelt came on board 1 July 1934 at Annapolis, Md., for a cruise of almost 12,000 miles through the Caribbean and to Portland, Oregon, by way of Hawaii. *Houston* also carried Assistant Secretary of the Navy Henry L. Roosevelt on a tour of the Hawaiian Islands, returning to San Diego 15 May 1935. After a short cruise in Alaskan waters, the cruiser returned to Seattle and embarked the President again 3 October 1935 for a vacation cruise to the Cerros Islands, Magdalena Bay, Cocos Islands, and Charleston, S.C. *Houston* also celebrated the opening of the Golden Gate bridge at San Francisco 28 May 1937, and carried President Roosevelt for a Fleet Review at the same city 14 July 1938.

Houston became flagship of the U.S. Fleet 19 September 1938, when Rear Admiral Bloch broke his flag on board her, and maintained that status until 28 December, when she returned to the Scouting Force. Continuing the now-familiar routine of training exercises, she got underway for Fleet Problem 20, 4 January

1939 from San Francisco, sailed to Norfolk and Key West, and there embarked the President and the Chief of Naval Operations, Admiral Leahy, for the duration of the Problem. She arrived in Houston, Texas, 7 April for a brief visit before returning to Seattle, where she arrived 30 May.

Assigned as flagship Hawaiian Detachment, the cruiser arrived in Pearl Harbor after her post-overhaul shakedown 7 December 1939, and continued in that capacity until returning to Mare Island 17 February 1940. Sailing to Hawaii, she departed 3 November for the Philippine Islands as the world situation grew darker. Arriving in Manila 19 November 1940, she became flagship of Admiral Hart, Commander Asiatic Fleet.

As the war crisis deepened, Admiral Hart deposed his fleet in readiness. On the night of the Pearl Harbor attack, *Houston* got underway from Panay Island with fleet units bound for Darwin, Australia, where she arrived 28 December 1941 by way of Balikpapan and Surabaya. After patrol duty she joined the ABDA (American-British-Dutch-Australian) naval force at Surabaya. Air raids were frequent in the area, and *Houston's* gunners splashed four planes 4 February as Admiral Doorman, RNN, took his force to engage Japanese reported to be at Balikpapan. *Houston* took one hit, disabling her No. 3 turret, and cruiser *Marblehead* was so damaged that she had to be sent out of the battle area. Doorman was forced to abandon his advance.

Returning to Australia, *Houston* departed 15 February with a small convoy to reinforce the garrison on Timor. Before the day was out, the group was forced to beat off numerous air attacks, and next morning the Japanese attacked in full force. During this defensive action, *Houston* distinguished herself by driving off nearly the entire raid without damage to her transports.

Receiving word that the major Japanese invasion force was approaching Java protected by a formidable surface unit, Admiral Doorman resolutely determined to meet and seek to destroy the main convoy. Sailing 26 February with *Houston*, HMAS *Perth*, HNMS *De Ruyter*, HMS *Exeter*, HNMS *Java* and 10 destroyers, he met the Japanese support force under Admiral Takagi consisting of 4 cruisers and 13 destroyers. In the Battle of the Java Sea which followed, Doorman's forces fought valiantly, but were doomed by lack of air cover and communication difficulties. The ships met for the first time in the late afternoon, and as Japanese destroyers laid smoke the cruisers of both fleets opened fire. After one ineffective torpedo attack the Japanese light cruisers and destroyers launched a second at 1700, this attack sinking *Kortenaer*. *Exeter* and destroyer *Electra* were hit by gunfire, *Electra* fatally, and at 1730 Admiral Doorman turned south toward the Java coast, not wishing to be diverted from his main purpose, the destruction of the convoy itself. With dogged fighting spirit he dodged another torpedo attack and followed the coastline, during which time *Jupiter* was sunk, either by mine or internal explosion. Then *Encounter* was detached to pick up survivors from *Kortenaer*, and the American destroyers, their torpedoes expended, were ordered back to Surabaya. Now with no destroyer protection, Doorman's four remaining ships turned north again in a last gallant attempt to stop the invasion of Java.

At 2300 the same night, the cruisers again encountered the Japanese surface group. On parallel courses the opposing units opened fire, and the Japanese launched a devastating torpedo attack 30 minutes later. *De Ruyter* and *Java*, caught in a spread of 12 torpedoes, exploded and sank, carrying their captains and Admiral Doorman down with them."



Figure 2: Sinking of USS Houston. (NHHC 80-142--n)

Before losing contact with *Perth* and *Houston*, Doorman had ordered them to retire. This was accomplished, but the next day the two ships steamed boldly into Banten Bay, hoping to damage the Japanese invasion forces there. The cruisers were almost torpedoed as they approached the bay, but evaded the nine torpedoes launched by destroyer *Fubuki*. The cruisers then sank one transport and forced three others to beach. A destroyer squadron blocked Sunda Strait, their means of retreat, and on the other hand large cruisers *Mogami* and *Mikutna* stood dangerously near. The result was foreordained, but *Houston* and *Perth* fought valiantly. *Perth* came under fire at 2336 and in an hour had been sunk from gunfire and torpedo hits. *Houston* then fought alone, her guns blazing at the enemy all around her, a champion at bay. Soon after midnight she took a torpedo and began to lose headway. During this time *Houston's* gunners scored hits on three different destroyers and sank a minesweeper, but suffered three more torpedo explosions in quick succession. Captain Rooks was killed by a bursting shell at 0030 and as the ship came to a stop Japanese destroyers swarmed over her machine gunning the decks. A few minutes later the gallant *Houston*, her name written imperishably in the records of heroism, rolled over and sank, her ensign still flying.

Houston's fate was not known by the world for almost 9 months, and the full story of her courageous fight was not fully told until after the war was over and her survivors were liberated from prison camps. Captain Rooks received posthumously the Medal of Honor for this extraordinary heroism.

In addition to two battle stars, *Houston* was awarded the Presidential Unit Citation.

# VI. GEOGRAPHIC LOCATION

The reported location of the wreck site of USS *Houston* lies in the vicinity of the Sunda Strait within Banten Bay, adjacent to Pulau Panjang Island in the northwest tip of Java, Indonesia.



Figure 3: Map indicating the general location of the loss of USS Houston off Java, Indonesia (Google Maps).

# VII. NHHC DIVEX RESEARCH OBJECTIVES

Within the framework of the CARAT14 DIVEX, the overarching objectives on behalf of NHHC from a site-management perspective were to undertake a site assessment of the wrecked vessel in order to identify it as USS *Houston* and establish a record of its state of preservation. Complementary objectives were to:

- 1. Establish a secure set of GPS coordinates for the bow and stern of the vessel.
- 2. Document the site and assess its current condition, including ascertaining the extent and orientation of the vessel and its associated debris field.
- 3. Assess the site for environmental hazards (e.g. oil), public safety hazards (e.g. ordnance), or visible evidence of human remains.
- 4. Identify and document evidence of any unauthorized disturbance.
- 5. Identify and document evidence of original battle-related damage.

# VIII. CONDENSED DIVEX OPERATIONS LOG

Date	Activities
9	Safeguard moored at Jakarta International Container Terminal 2. Briefs with Force Protection,
JUNE	CAPT Stacpoole (NAVAT), IND Diver Unit/ Frogmen, and CWO2 Shafer / MDV Phillips.
2014	Kompas Interview and meeting with MC3 Senyk to coordinate data management.
10 JUNE 2014	Arrived in Banten Bay. Side-scan sonar operations initiated. Conducted seven passes over
	Waypoint 1 with no target located. Passes over Waypoint 2 resulted in the location of a positive
	target and additional passes revealed a large metal hull. Visual confirmation of the target by
	divers followed. Initiated the placement of extremity buoys, positioning one by western
	extremity and one close to midships. Length of site determined by side-scan sonar
	ensonification. Safeguard moored overnight by eastern buoy.

11 JUNE 2014	Repositioned Safeguard due to moor shifting overnight. Poor visibility and strong currents
	disturbed morning surface-supplied diving operations. Reverted operations to SCUBA with
	intent of installing a buoy on eastern extremity and investigating western extremity to establish
	whether it represents the bow or stern. US/Indonesian VIP delegation arrived and wreath-
	laying ceremony was held. USN Remotely Operated Vehicle (ROV) operations initiated near
	eastern extremity. Diving ensued and established that the stern is located adjacent to western
	extremity and bow adjacent to eastern extremity. Evidence of disturbance documented. ROV
	became entangled, causing the fiber-optic cable to malfunction. ROV operations ceased and
	vehicle was recovered.
12 JUNE 2014	USN divers explored from midships buoy to bow along exposed port side of hull during the
	first dive of the day. IND divers subsequently explored interface between deck and seafloor
	along entire length of vessel. Second USN dive explored from midships buoy to stern. Diving
	interrupted in late morning due to strong current. Several afternoon dives proceeded toward
	bow from midships buoy, then stern from midships buoy, sweeping the deck of the vessel to its
	extremities. Weather prevented planned evening dives from materializing.
13	Breakdown operations began and buoys removed from site. Hotwash brief for USN and IND
JUNE	teams occurred and CARAT14 concluding ceremony held. DIVEX concluded. Safeguard
2014	removed its moor and was scheduled to proceed to its next mission.

#### IX. DATA RECOVERED DURING DIVEX

The operation resulted in 14 dives conducted by MDSU 1 Company 1-5, along with approximately 5 Indonesian Navy dive excursions. Given the observed depth (90-120FT), dives were limited to 15 minutes. Additionally, as a result of the periodic current (up to 1.7 knots) and compromised visibility on site, not all dives permitted for the systematic and location-based assessment of site features. Furthermore, early dives did not benefit from the placement of buoys on the extremities and midships of the site, therefore the accuracy of positioning of observed features is compromised. In addition to diver reports, 15 of the 19 dives were also documented

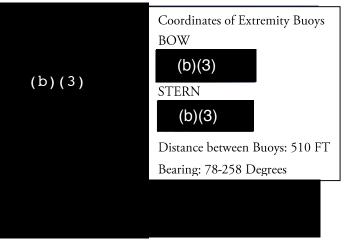


Figure 4: GPS Coordinates of extremity buoys for precise location and orientation.

utilizing GoPro handheld video recorders producing 59 GB of data and the primary means subsequently utilized to assess the identity of the site. Furthermore, ROV footage (150 MB), concentrating on a single component in the vicinity of the bow, as well as moderate quality side-scan sonar data collected over the length of the hull (275 MB), enhanced the interpretation of the site and its identification. Finally, GPS coordinates obtained over the buoys affixed near to the extremities of the site provided for a precise location and orientation, as seen in Figure (4). A subsequent high-resolution remote sensing survey of the site via multi-beam echo sounder and/or side-scan sonar would be of significant value in confirming the interim conclusions presented below.

the stern and along midships. Figure (5) below shows an early draft composite of the notated features entire port side exposed to the elements. A notable break appears in the vicinity of the bow, approximately observed during review of video recordings of the site for illustration purposes. disfigured the hull of the vessel. Nets are strewn throughout, but are particularly prominent in the vicinity of 40FT from the damaged tip. Battle damage and damage associated with the wrecking event have also severely The hull's starboard side is lying on the seafloor, with the deck lying perpendicular to the seafloor, and the

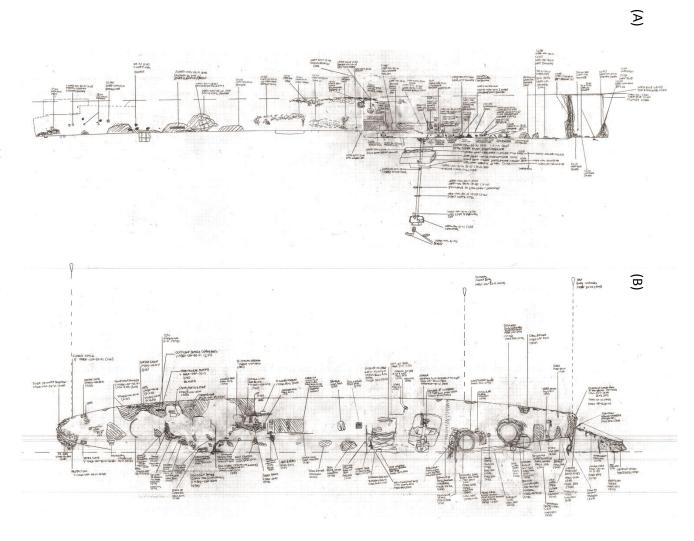


Figure 5: Preliminary drawing of features and site damage observed during data analysis - (A) represents a bird's eye view of the port exposed side of the vessel, while (B) represents a profile view of the hull as it rests on the seafloor.

#### X. WRECKED VESSEL IDENTIFICATION

Pursuant to a thorough review of available data, preliminary identification of the wrecked vessel as USS *Houston* followed multiple lines of evidence.

#### 1. Location of USS Houston and relation to HMAS Perth

According to historical accounts and eyewitness statements, USS *Houston* and HMAS *Perth* were traversing Banten Bay heading west towards Sunda Strait when the battle erupted. HMAS *Perth* sank first, and according to most eyewitness reports, further to the north than USS *Houston*, which was reported as sinking closer to shore, following CAPT Rooks's decision to turn into the battle and away from Sunda Strait (Winslow 1971:17). Current nautical charts (#2056) issued by the U.K. Hydrographic Service report two wrecks in the vicinity of Banten Bay, the southern one of which, closer to shore, corresponds to the DIVEX target. The bow of the wrecked vessel faces east, away from Sunda Strait.

#### 2. Overall Dimensions

Side-scan sonar data estimates the overall length of the target extending between 570FT and 610FT, corresponding with the overall length of USS *Houston* (600FT). GPS coordinates taken from buoys affixed adjacent to the extremities of the vessel indicate the buoys being positioned approximately 510FT apart. This also corresponds with the overall length of USS *Houston*, as the stern buoy was positioned approximately 30FT from the bitter end, and the bow buoy was placed on the extremity of the main hull and did not encompass the last 40FT of the broken bow. Error in GPS accuracy and in the tautness of the buoy lines may feasibly account for the remaining 20FT discrepancy.

#### 3. Identifiable Features

The original construction plans for USS *Houston*, preserved in the National Archives RG 19, were located and provided a basis for comparison of site features identified via video recordings. As aforementioned, some of the most characteristic areas of USS *Houston*, such as the bow rake, stacks, masts, and gun turrets, were significantly damaged and dislocated during the battle and/or ensuing wrecking event. Furthermore, marine growth and an expansive array of nets blanket the site and conceal many of the finer telling features. Complicating the assessment is the fact that the DIVEX timetable did not permit for the establishment of any form of reference grid that would permit for the precise positioning of identifiable features. Nevertheless, a number of observations favor the identification of the vessel as USS *Houston*, the most prominent of which include the main tripod mast tops of USS *Houston* (Fig. 6 (A)) and port mast stump (Fig. 6 (B)), a dual hatchway amidships beneath the airplane catapults (Fig. 6 (C)), the vessel's three observed gun turret casings (Fig. 6 (D, E, F)), and the positioning of cleats and chocks in the stern (Fig. 6 (G, H, I)). Tellingly, no observed features were inconsistent with such an identification; however, the significant damage observed on site may have concealed such markers.

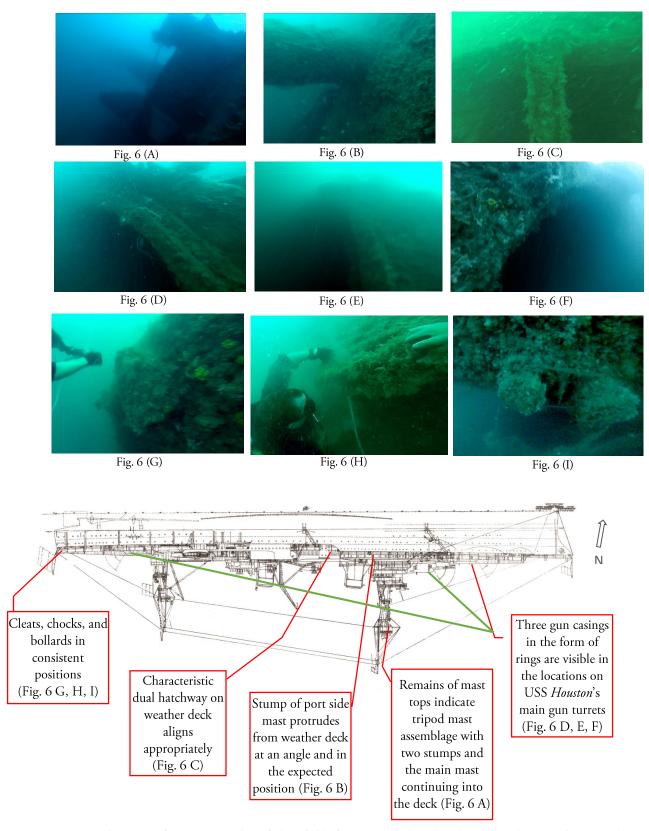
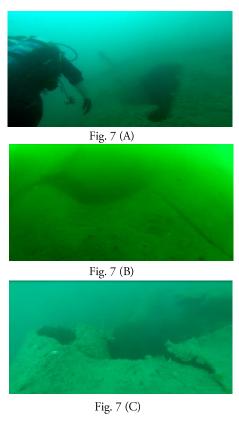


Figure 6: Screen shots (A-I) from GoPro video of identifiable features, as well as their locations relative to the original plan of USS *Houston*, presented here in top-down view as the hull presently rests on the seafloor.

# 4. Evidence of Battle Damage

The wrecked vessel is marred by evidence of battle damage in the form of areas of deformed hull, as well as penetrations of the hull and decks that exhibit outward-forcing damage, the result of shell explosions. Additionally, the vessel clearly also suffered damage as a consequence of its wrecking event, which resulted in all three main gun turrets being dislodged, the main mast and associated superstructure being displaced, the stacks being displaced, and the aft mast leaving little trace. There is, however, particular evidence of battle damage that corresponds directly with eyewitness accounts of damage suffered by USS Houston (e.g. Holbrook 1981:83-102). Among them is an account of a shell penetrating the wardroom (Fig. 7 (A)), which correlates with corresponding damage on the exposed port side of the vessel, a possible torpedo hit on the port side amidships (Fig. 7 (B)), as well as horrendous damage at the deck/side interface between the stern stack and aft mast (Fig. 7 (C)).



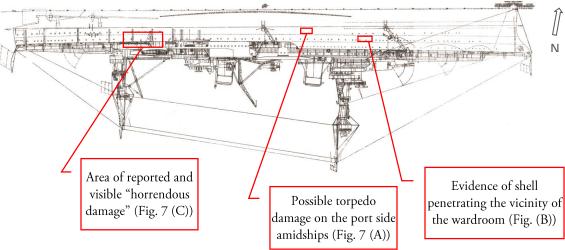


Figure 7: Screen shots (A-C) of GoPro video documenting battle damage, as well as their locations relative to the original plan of USS *Houston*, presented here in top-down view as the hull presently rests on the seafloor.

# XI. EVIDENCE OF UNAUTHORIZED DISTURBANCE

During the documentation dives undertaken by MDSU 1 Company 1-5, several pieces of evidence indicated that systematic, methodical, and ongoing unauthorized disturbance activities were occurring on the site of the DIVEX investigation. Evidence was concentrated throughout the exposed port side of the vessel, and was multi-faceted in nature, as presented below in Figure (8).

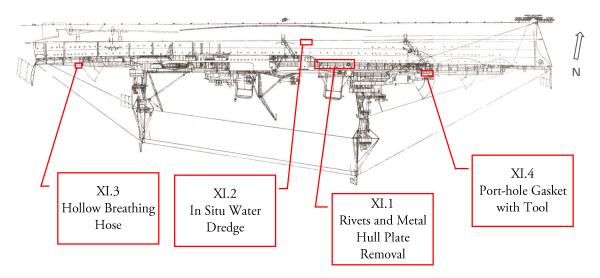


Figure 8: Areas indicating unauthorized disturbance on exposed port side of the vessel relative to the original plan of USS *Houston*, presented here in top-down view as the hull presently rests on the seafloor.

#### Rivets and Metal Hull Plate Removal

Rivets running along the sides of seams that hold hull plates together have been systematically removed to allow for the plates to be lifted as part of unauthorized recovery operations. Figure (9) shows a gap where a plate has already been removed and the initial lifting of the subsequent plate. The marker standing upright in the center of the image is placed on the last rivet that has been removed along the seam. Figure (10) shows a seam between metal

Fig. 9 hull plates with rivets removed. Sequential removal of rivets was observed in multiple areas of the exposed port side of the hull. Fig. 10

# 2. In Situ Water Dredge

The deck of the wrecked vessel has caved in or been deformed by extensive battle-related damage. Figure (11) shows what appears to be a water-dredge, used to remove sediment from an underwater environment, adjacent to such a cavity that permits entrance to the interior of the hull. Dredges of this type are commonly utilized in salvage or archaeological operations to excavate through sediment. The condition of the dredge indicates it has been present on site for some time, while it is still being weighed down by a rectangular metal frame, suggesting continued use.



Fig. 11

# 3. Hollow Breathing Hose

A modern hollow hose was observed coiled near the stern on the exposed port side of the vessel (Fig. 12). The hose's loose end was not traced. It is apparently consistent with the type of rudimentary surface-supplied diving system that local divers might use to support prolonged operations through pumping compressed air down to the seafloor for breathing purposes.



Fig. 12

# 4. Porthole Gasket With Tool

The vast majority of portholes observed by divers on the exposed port side of the hull have been removed; what remains is typically evidence of forceful removal in the form of a circular gap in the hull. Figure (13) shows a custom-made tool constructed for such a purpose of forceful removal, alongside a rubber gasket that once formed part of a porthole seal, as well as a disfigured porthole nearby. Divers observed that the tool utilized a handle made of a golf ball.



Fig. 13

# XII. ADDITIONAL RELATED CONCERNS

# 1. Evidence of Unauthorized UXO Removal

Resting on the exposed port side of the hull, divers observed an accumulation of shells and ordnance, alongside a canvas bag, placed there in preparation for their recovery (Fig.14). Given the location of the ordnance, this is not deemed to be a natural accumulation, but rather evidence of the unauthorized removal of (live) ordnance from the site. Potential casings, shells and UXO is evident in moderate quantities in several locations across the site.



Fig. 14

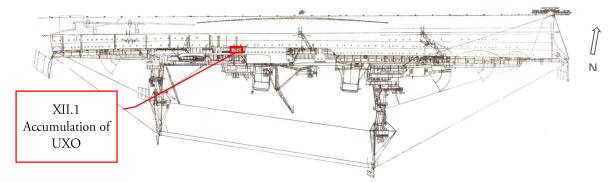


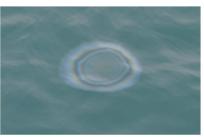
Figure 15: Location of accumulated UXO on site, relative to the original plan of USS *Houston*, presented here in top-down view as the hull presently rests on the seafloor.

# 2. Evidence of Continuing Oil Seepage

The presence of oil slicks on the surface of the water above and around the DIVEX site was noted by multiple project participants and observed in several locations scattered several hundred feet apart over the vessel. The first evidence of oil in the water column was recorded by the side-scan sonar team as the towfish was being recovered on 10 June. Subsequently, slicks and active seeps were witnessed during the mornings of 11, 12, and 13 June when the sea surface was calm. Figure (16) shows a moderately-sized slick that accumulated in the vicinity of USNS *Safeguard*. Figure (17) shows a small oil seep as the oil reaches the water's surface and expands, forming a small sheen.



Fig. 16: Oil slick concentrated over the DIVEX area of operations.



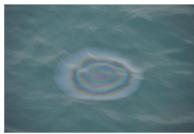




Fig. 17: Three images documenting a small oil seep over the DIVEX target rising to the surface and dispersing to form a small sheen.

# 3. Evidence of Human Remains

No evidence of human remains has yet been detected in the footage associated with the DIVEX.

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