

United States Department of the Interior
National Park Service

National Register of Historic Places Registration Form

This form is for use in nominating or requesting determinations for individual properties and districts. See instructions in National Register Bulletin, *How to Complete the National Register of Historic Places Registration Form*. If any item does not apply to the property being documented, enter "N/A" for "not applicable." For functions, architectural classification, materials, and areas of significance, enter only categories and subcategories from the instructions.

1. Name of Property

Historic name: Robert Gray DRAFT

Other names/site number: "LT666" and "Don J Miller II"

Name of related multiple property listing:
N/A

(Enter "N/A" if property is not part of a multiple property listing)

2. Location

Street & number: 800 Wharf St

City or town: Richmond State: CA County: Contra Costa

Not For Publication: Vicinity:

3. State/Federal Agency Certification

As the designated authority under the National Historic Preservation Act, as amended,

I hereby certify that this ___ nomination ___ request for determination of eligibility meets the documentation standards for registering properties in the National Register of Historic Places and meets the procedural and professional requirements set forth in 36 CFR Part 60.

In my opinion, the property ___ meets ___ does not meet the National Register Criteria. I recommend that this property be considered significant at the following level(s) of significance:

___ national ___ statewide ___ local

Applicable National Register Criteria:

___A ___B ___C ___D

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4. National Park Service Certification

I hereby certify that this property is:

- entered in the National Register
- determined eligible for the National Register
- determined not eligible for the National Register
- removed from the National Register
- other (explain:) _____

Signature of the Keeper

Date of Action

Classification Ownership of Property (Check as many boxes as apply.)

- Private:
- Public – Local
- Public – State
- Public – Federal

Category of Property (Check only one box.)

- Building(s)
- District
- Site
- Structure
- Object

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Number of Resources within Property

(Do not include previously listed resources in the count)

Contributing	Noncontributing	
_____	_____	buildings
_____	_____	sites
<u>1</u>	_____	structures
_____	_____	objects
<u>1</u>	_____	Total

Number of contributing resources previously listed in the National Register 0

Function or Use

Historic Functions

(Enter categories from instructions.)

DEFENSE: Military Vessel

EDUCATION: Research (survey) Vessel

Current Functions

(Enter categories from instructions.)

TRANSPORTATION: Water Related

EDUCATION: Education- Related

7. Description

Architectural Classification

(Enter categories from instructions.)

OTHER:Ship

Materials: (enter categories from instructions.)

Principal exterior materials of the property: _____

Narrative Description

(Describe the historic and current physical appearance and condition of the property. Describe contributing and noncontributing resources if applicable. Begin with a **summary paragraph** that briefly describes the general characteristics of the property, such as its location, type, style, method of construction, setting, size, and significant features. Indicate whether the property has historic integrity.)

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Summary Paragraph

Summary Paragraph

Vessel Robert Gray (Coast Guard #973663 MMSI: 367445340 Call Sign: WDF3899)

Completed in 1936, Robert Gray is a high iron riveted steel charter vessel located within the Richmond, CA inner harbor, which lies between Ferry Point and Point Isabel, between the mainland and Brooks Island in western Contra Costa County along the East Bay's northern East Shore. The vessel is 117 feet and 11 inches, a beam of 25 feet and a mean draft of 8 feet 6 inches. The vessel was originally outfitted with the first of its kind hybrid diesel electric power system designed by the Enterprise Engine Corporation of San Francisco – a significant state of the art engineering feat and innovation for its time. She was repowered in 1970 by the United States Geological Survey with a slower, steadier Caterpillar main engine, which was better suited for the slower speeds required for survey work. The Robert Gray features two primary decks and nine staterooms and sleeps up to twenty. There are four generators, a survey sonar, a dive compressor, a desalinator, a crane and helipad integrated into the vessel. The engineering and architectural drawings of the vessel (a requirement of all USCG vessels with Certificates of Documentation and Inspection) are in pristine condition and are a rare standalone historic feature due to the significant and innovative engineering aspects featured on the vessel with the majority of the original design remains. The original design work took 7 years and 2 years to build. The upgrades done by the USGS, such as the repower and the modification of the rudder to increase the turning radius as well as work done by the current owners to enhance the state of the art navigational tools continue the legacy of innovative equipment that makes the vessel historically unique in design and function. From concept to current day, the vessel serves as a relevant historical frame of reference and floating museum that showcases the nearly 100 year history of cutting-edge engineering, architecture and technology, in and of itself, is history. Her history of service to the United States in whatever capacity she was called upon (Army Corps of Engineers, World War II service with the Army, USGS and now, privately as an educational and historic treasure) this vessel continues to have much to offer to her country and should be recognized and preserved as such.

Narrative Description

As described in “The Log” published in October 1936, the vessel was designed by Seigly O.A., Associate Naval Architect from the Engineers office in Portland, Oregon (Harding, October 1936), for use in survey work. The Robert Gray was originally classified as a Hydrographic Survey Vessel, but shortly after being launched for survey and research activities, she was transferred over to the Army and renamed Large Tug (LT)-666 (McGuigan, 1947) and deployed as part of the fleet protecting the Alaskan territory during World War II.

The Pilot House Bridge and Map Room

The pilot house bridge is outfitted with all-natural wood, varnish finish and is the original fir used throughout the vessel. The pilot house and map room were refinished in the late 20th Century. The combination chart table and long leather pilots’ bench/bed was shortened, likely during its overhaul

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in San Francisco in 1947 – but it remains as a majestic port-side seat which can be converted to a chart table as needed. The bulk of the rear wall of the bridge is dominated now by a chart table and many chart drawers as well as shelving for additional computer, network and telecommunications systems.

Surveying and Radar Equipment

In 1904, the Coast and Geodetic Survey introduced the wire-drag technique into hydrography, in which a wire attached to two ships or boats and set at a certain depth by a system of weights and buoys was dragged between two points. This method revolutionized hydrographic surveying, as it allowed a quicker, less laborious, and far more complete survey of an area than did the use of leadlines and sounding poles that had preceded it, and it remained in use until the late 1980s (Office of Coast Survey, 2017). Previous articles and reports document the use of the wire drag technology being utilized. Blueprint drafts from the original build show installation of early radar systems via a type of antenna called UHF used for long range radio. This cable antenna hung between the two masts on the ship. A large cable barrel deployment spool (possibly for hydrographic use) was located in the Salon for a short period, where it would have been out of view by other ships. Additional equipment that was installed and still remains on the vessel today include:

- 1) Auto pilot tested and in service - magnetic compass guidance and gyroscopic guidance both full functioning
- 2) 2 VHF Radios
- 3) Depth Sounder
- 4) Large Scale Sonar needs testing and hull mounted transponder box - the large-scale sonar unit dates from the 1980's and was likely used in USGS surveys in SF Bay post Loma Prieta earthquake in 1995.
- 5) Late 60's era control console with analog gauges and fully independent hydraulic pump system driven via ship's wheel and separate jog controller and autopilot selector.
- 6) Autopilot steering controls and compass are mounted in a binnacle with gimbal and compensation ball. Compensation navigation adjustment chart is mounted on the starboard wall of the pilot house. It dates from the Alaska Don J. Miller service work of the ship and is signed by the engineer making the adjustment (see photo).

Galley, Pantry and Walk-in Refer/Freezer (Forepeak)

The galley is a near commercial grade all electric kitchen designed to provide meals 24/7 for a full crew of 20 including passengers. The electrical appliances date to 1980. The galley prep area has original terrazzo floor tile, and the mess areas are carpeted. The mess areas include two, six person all wood seating areas with classic banker style varnished chairs and tables marked as built by the United States Army Corps. The galley and mess areas have substantial metal storage cabinets and wood slotted dish storage to hold classic style crockery. The galley has a ceiling passage to the pilot house which is currently closed but includes metal mountings and handles for a ladder that would have supported meal deliveries to working pilot crew above. Below the galley (access just outside the port side hatchway and down the forepeak stairway) is a walk-in lockable pantry outfitted with shelving designed by the Army Corps and as original to the ships plans.

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Crew Capacity

Originally, the general arrangements were to provide accommodations for eight men on the lower deck forward, complete with a washroom and shower. Aft of the engine room on the lower deck were four compartments one of which could be used for a survey crew of five or six men. The extreme after part of the lower deck was for storage supplies. The current configuration remains historical in furniture and fittings with two shared cabins in the forepeak and a potential "cooks" quarters in the most forward compartment of the forepeak along with the walk-in cooler. Headroom and cabins are extremely spacious, and a full tiled head is included in this compartment.

Salon

The salon is the single largest gathering area aboard with four couches seating 16 people and standing area with ample access to the wet bar and mini refrigerator. The room is "dominated by a central coffee table built over and around a functional 300KT towing H-Bit cleat. The aft wall of the salon is a half heavy rubber and half steel with mahogany wood framed windows metal garage type door that opens onto the aft fantail of the ship. The port and starboard sides of the salon have matching, original mahogany framed windows and opposing heavy mahogany doors with brass port lights (original designed) and port holes on both sides. The salon was extended insize from the original design to provide for the upper "flight deck" helipad and helicopter tie downarea. The towing cleat (seen in historic photos at the outer aft wall of the Salon) moved inside thesalon in later remodels. The fantail open area at the stern of the ship has a four-burner barbecue and an original deck mounted hatchway leads to the steering control room and additional 3000 gallon water storage tank. The stern has a cable roller installed (original) to support towing via the H Bit now in the salon. The Salon appears in many configurations over the life of the vessel. Notably (in 1947) a larger cable carrier was installed there almost as if to hide it from view. Earlyplans show a beautiful transverse mounted dining/conference table and service area for six or eight. Chairs drawn there are similar to those in the current galley and the furnishings of the time were likely just as impressive. Drawing for the late 50's to 70 and 80's era shows a more utilitarian office plan with space for onboard computers and cubicles.

Original Propulsion and Auxiliary System

Intended as a versatile survey vessel, the single-screw propulsion and auxiliary machinery equipment were specially designed to operate at low propeller speeds and at the same time maintain engine efficiency, which was most ideal for surveying type work. The Enterprise Diesel engines installed in the Robert Gray were a completely new design developed by the Enterprise Engine Corporation of San Francisco between 1934-1936. Originally the ship was outfitted with dual diesel engines powering electric motors to support very low speed operations while mapping in sharp rocked bays. Enterprise Engine Corporation of San Francisco provided two type DSF6 11.5 x 14-inch, 6 cylinder, 360 HP @450 RPM diesel engines. A sensitive Woodward hydraulic governor was installed on each engine which allowed the generators to run at a constant speed with varying loads on the propelling motors. Each of the Enterprise Diesel engines directly coupled to a Westinghouse 225-kw main generator and 20-kw Westinghouse exciter, or auxiliarygenerator. The two generator units supplied power to a Westinghouse double armature propellingmotor rated at 550-horsepower @ 300 R.P.M. The propelling motor was connected to the propeller& shaft (still in use) through a Kingsbury thrust bearing. Complete switching and propulsion control was centered in a compact cubicle located in the engine room. Prominent in directing completion of the Robert Gray was Lieut. Colonel Fox, District Engineer of the first Portland District. There was also Hugo Hass, Chief Diesel Engineer of the Portland Army Corps of Engineers who was in

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Seattle for the trials and acceptance of the vessel. After these engines were rebuilt for the Robert Gray, Enterprise announced that these same engines would be available for medium and heavy service in sizes from 40-horsepower to 1,000-horsepower direct reversible or for electric drive (see Figure 12).

Flight Deck and Helipad

The ship was designed for long periods of deployment and long-range operations in the field, having the capabilities of storing sufficient fuel, water, repair equipment and all manner of supplies. The helicopter and flight capabilities allow a crew to self-sustain in remote areas at sea, while having helicopter support services to access land. This added feature to the vessel was key for the USGS work that took place in Alaska. See letters of support provided by USGS staff who were onboard the vessel and utilized the much-valued helicopter landing pad.

Current Propulsion and Auxiliary System

In 1970 the vessel was repowered with a 750 hp Caterpillar diesel engine to accommodate accurate maneuvering ability necessary for United States Geological Survey (USGS) work. Additional modifications were made to the steering rudder increasing the angles of direction and presumably enhancing turning radius. The vessel currently is capable of turning in the space of its own length. Plans also show the bow forward steel had a prominent "blade" of perhaps 10" or more. This blade - possibly for ice handling, was cut away (after 1947). This brought the vessel to current configuration with 3 support generators (45Kw, 60Kw and 75Kw) and a fully electric heating system (240v) replacing the steam radiators. The engine room is spacious and includes amenities such as an antique drill press and mechanical metal lathe. There is an original metal worktable with welding surfaces and heavy tool drawers as well as various work surface counters along the starboard side. The engine room houses a considerable tool collection and stores to service most any repair or refit need arising on the vessel. Several systems are available for service or may require refit including dual four stage sewage treatment "digesters" (port and starboard) a water maker and CO2 Fire control system. The previously mentioned large scale sonar unit is also installed here.

The main power bus and distribution panel of the ship is located forward and amidship. it is the original bus panel from 1936. The floors are diamond plate steel and aluminum panels custom fit over angled steel floor frames. The engine room is accessed on the forward port side unlike the drawings made at launch which show a grander entrance stairway positioned amidships. Under the original configuration, as mentioned the propulsion system was two diesel electric generators (Port and Starboard) powering an electric motor on a single shaft (turning the same shaft, prop and steering rudder as today). With the addition of a dive and submersible air compressor in the upper engine room and large-scale sonar and water maker in the main engine room, the access stairway had to be relocated. Additional engine room access is via waterproof hatchway leading into the mapping crew quarters, executive officer/captain and engineer staterooms. The shaft system which is accessed via hatchway (and below the engineer's stateroom) includes a time delayed oiler of the same period and manufacture as the ships whistle (Lunkenheimer Co. now Cincinnati ValveCo) and a mounted grease injector. A small bilge pump below supports the water streamed lubrication of the shaft during transits. The shaft collar must be loosened for every cruise and retightened at dock to seal it again. Although the engines were upgraded in 1970, much of the integral original propulsion and all of the steering system remain intact.

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Integrity

The vessel maintains approximately 90% of its historical integrity and has been through very few major modifications over her lifetime. It is significant to note that as an Army Corps designed survey vessel the commitment has been maintained to keeping the Robert Gray not only current but also progressive with her technological capabilities. She was designed and launched with a unique drive system before sonar and radar existed. Plans show additions of radar mast and sonar as soon as they came into existence (both still installed). Support for on board computerized survey data gathering and “clean” work power to support digital equipment was also installed in the upper engine room, forepeak and Salon. To maintain the original integrity of the vessel, maintenance and service work has been done, in tandem with some essential modernization work. These items have been documented in Table 1, below.

Table 1: Historical Integrity and Modernizations / Service

% Historic Integrity Remaining	Modification / Serviced
Engine Room	
Engines installed by USGS in 1970 -100% Historic Integrity	Main Engine Serviced, cleaned + new oil, coolant and filters
Generators installed by USGS in 1970 - 95% Historic Integrity	3 generators, 3 phase - serviced, cleaned + new oil and filters.
Hydraulic steering system – 100% Historic Integrity	Serviced – primary and secondary systems fully operational
Raw water fire pump - 100% Historic Integrity	Primary, Secondary tested and fully functioning - 3 1/2” hose coupling, and monitor (water cannon) added
Prop Shaft Room (original 1936) - 95% Historic Integrity	Needs painting and possible packing system upgrades (nylon packing ring option). Bilge pump system was upgraded to modern pump matching lubrication system as installed in 1970s. Shaft inspected, tested and operating fully functioning.
Upper Engine Room (Fiddley) - 75% Historic Integrity	Upper engine room expanded w/ added floor space (from closing central stairway down to main engine room) supports - Night generator (single phase) supplying back-up and alternative to shore power, welding system (fully operational) air compressor system for dive tank refill and submersible craft air supply (needs inspection and servicing) day fuel tank filled by main engine operation and then gravity feeds all generators below.
Anchor Room & Deck Equipment	
75% Historic Integrity	Anchor chain consolidated to port side 800 lbs. Navy Stockless anchor – tested & in use, 7 shot of 7/8” anchor chain. Hydraulic windlass system repaired with new hose, planetary rebuilt, gears greased. Room painted - hatch gasket to upper deck replaced and watertight seal repaired. Hatchway to lower waterproof forward compartment below chain room also serviced and restored. Anchor boxes cleaned and ready for install of 2nd anchor and chain. On deck capstan and anchor braking system all original 1936 - serviced and fully functional
Bridge/Pilot House	

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75% Historic Integrity	Original binnacle compass, adjusted for USGS charter in 1988, 1936 ships phone (versions throughout the ship), 1970s steering wheel and analog air, hydraulic and electric control panel installed at the time of engine replacement and integrated with hydraulic steering system of 1936. New Added: Radar (doppler): digital chart plotter, multi-function radar display. NMEA2000 navionics backbone started. Digital pitch/roll/speed and ships orientation GPS tracking. IP Cameras for piloting visibility, security and documentary services access acquired. Secondary screen for all nav systems added to helm. Ethernet -Wireless and wired (Raynet and Ethernet). Loud Hailer with PA, Fog signals and auxiliary audio power forward and aft loudspeaker horns (4 x 12”). High wattage amplifier supports sufficient sound output via the horns to facilitate both communication, fog signals. AIS (type A) with NMEA2000 integration (New 12/2020). Cellular Dual MIMO Antennae (mast mounted) and highspeed long range telecommunications system (modem/switch) provides internet and cellular data access up to 20 miles offshore. Dual connectivity modes for cellular and multiple WIFI network access points. Network access is distributed throughout Robert Gray including all below deck operations and cabin compartments with the exception of anchor, steering and watertight bulkhead forward compartment.
Galley, Pantry and Walk-in Refer/Freezer (Forepeak)	
75% Historic Integrity	Repainted to period with floor grout restored. All electric commercial style with dual ovens, dual burners and 2 full griddle surfaces. Prep Space with 240V hook up for additional commercial cook top, microwave oven, dishwasher, dual steel sinks, ample storage. 2 refrigerators and freezer (used as pantry storage). 1936 original walk-in pantry in forepeak completely repainted in 2020. Walk-in freezer/cooler in Forepeak (below deck from Galley).
Salon	
75% Historic Integrity	Painted, added wireless networking. Wet bar and serving area original. 180-degree stern faced viewing via large windows and original port lights. Wireless programmable lighting. 60” display, DVD system. Interior and fantail exterior quality audio accessible via Bluetooth and Wi-Fi network.
Cabins	
All Cabins – including the Engineering Crew Cabins (Aft below decks) 95% Historic Integrity	All cabin bunks include: a light over the bed, power available at the light or near the bunk space for electronics, Wi-Fi or wired network, Obsolete 220v heaters - some portable 110v heaters, some dehumidifiers, some obsolete intercoms, some antique ships phone with old style carbon microphones and various bell and alarm options
Cabins - original period wood furnishings and built-ins throughout ship - 100% Historic Integrity	Engineers (Aft Below Deck) includes head with shower and sink, extended period built-in desk, single bed, drawers, and shelf space, extensive storage and full length closet. Small porthole to deck access stairway, access hatch to Prop Shaft room (below flooring outside head), automated lighting, Wi-fi and wired ship’s network/internet, sound system, Fan to exterior. Exec Officer/Captain’s period wood full/double bed with drawers includes: Sink, Full length closet, extensive storage, microwave, wired ship’s network/internet. Mapping Crew Main Cabin with hatchway to Engine Room (4 bunks) include: sink, two half height closets with drawers, both bunks have under bunk storage drawers. Aft Mapping Crew Cabin (2 bunks) includes: half height built-in closet with drawers, under bunk drawers, fan to external w/ on-off on upper bunk

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Heads 85% Historic Integrity	Engineers (Aft Below Deck) with shower, Forepeak (Fo'c'sle) full head with shower, VIP Cabin (Main Deck Portside Aft) separate full head with shower and access to main deck or cabin, 1936 original sink in cabin, Officers Head (Port Side Main Deck) full head with shower, Day Head (Starboard Side Main) no shower, Pilot House (Bridge Deck) full head with 1970's era shower. Heads were updated in the 80s to replace industrial raw water flushing toilets with more easily maintained freshwater porcelain toilet systems. Sinks are original and showers are mostly original with some updated fixtures to repair models no longer available.
Exterior 85% Historic Integrity	Decks, Walls, Fixtures, Equipment. Decks have been resurfaced with elastomeric paints to preserve perishable fir wood over steel stringers, walls are original, painted as normal maintenance, Fixtures are largely original brass and as designed (see blueprints) on doorways and hatches. Port lights and port holes on the main deck are original. Port lights forward have storm plates internally for foul weather use. Portlights amidships and aft below deck were sealed for safety during use in Alaska and Port lights in the Salon aft section were changed to wood framed ports in 1970s when the helipad was added by USGS for flight deck extension.

8. Statement of Significance Applicable National Register Criteria

(Mark "x" in one or more boxes for the criteria qualifying the property for National Register listing.)

- A. Property is associated with events that have made a significant contribution to the broad patterns of our history.
- B. Property is associated with the lives of persons significant in our past.
- C. Property embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components lack individual distinction.
- D. Property has yielded, or is likely to yield, information important in prehistory or history.

Criteria Considerations

(Mark "x" in all the boxes that apply.)

- A. Owned by a religious institution or used for religious purposes
- B. Removed from its original location
- C. A birthplace or grave
- D. A cemetery

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- E. A reconstructed building, object, or structure
- F. A commemorative property
- G. Less than 50 years old or achieving significance within the past 50 years

Areas of Significance

(Enter categories from instructions.)

MILITARY
SCIENCE
ENGINEERING
EXPLORATION/ SETTLEMENT

Period of Significance

1936– 1970

Significant Dates

Significant Person

(Complete only if Criterion B is marked above.)

Cultural Affiliation

N/A

Architect/Builder

Seigly O.A., Associate Naval Architect from the Engineers office in Portland, Oregon
Nickum W.C., Lake Washington Shipyard

Statement of Significance Summary Paragraph (Provide a summary paragraph that includes level of significance, applicable criteria, justification for the period of significance, and any applicable criteria considerations.)

Robert Gray is a rare and intact representative of her class of vessel, at the local level of significance with period of significance dating from 1936 to 1970. The Robert Gray is eligible for listing in the National Register of Historic Places under Criterion A, with its participation in the navigation and charting of the Columbia River and contribution to the region's economic development, engagement during WWII in the Aleutian Islands and support work to scientific discoveries, research and development. The Robert Gray is eligible for nomination under Criterion C, as it was propelled by the first-ever system of its kind – a dual diesel electric propulsion system with highly designed matching prop and hull structure, and performed a variety of duties that

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served in the advancement and protection of our nation through research and state of the art hydrographic surveying work. Additionally, the vessel was called upon and was part of the fleet of vessels protecting Alaska during WWII. The US military strategists knew they could not risk leaving the Aleutians open as stepping stones for Japanese attacks and the vessel became part of the fleet of wartime protection. Notably, many of these sites and vessels have already been recognized as worthy of the National Historic Landmark status and are amongst some of the nation's most treasured resources having been deemed worthy of preservation. This vessel's service to the states of Oregon, Washington, California and Alaska as well as being an integral part of the nation's security during wartimes coupled by the critical data collected by those deployed on the research vessel about the natural resources found in Alaska, sea floor mapping for earthquake risk assessments, flood control assessments and navigational information make the contributions to the nation invaluable as the completed research works provided foundational understanding in areas impacting all citizens by giving our nation's leaders the crucial information necessary to make well-informed decisions. A request has been made for any and all historic documents from the Library of Congress military history specialist from the archives of President Calvin Coolidge to complete the library of historic documents. These documents will be available by the time of the January 2022 agenda.

Narrative Statement of Significance (Provide at least one paragraph for each area of significance.)

Criterion A

Portland Oregon Army Corps of Engineers – Columbia River, Oregon and Washington

“The Robert Gray was built for the Corps of Engineers, Army, and will be operated in the Columbia River District. Several hundred persons saw the trim little ship, glistening in the sunlight of a perfect summer day slip from her cradle of timbers and sweep into the placid waters of the lake” (Hines, 1936).

The *Robert Gray* vessel was designed to provide hydrographic surveying functions for the Oregon Army Corps of Engineers who were researching and navigating the Columbia River (Harding, October 1936).

Army engineers played a key role in the opening of the Oregon Country. Through the development of water resources, the Army engineers provided the means for regional growth. The conquering of the mighty Columbia River, from early navigation improvements of the 19th century to the multiple purpose dams of the 20th century, represents a major accomplishment. The jetties on the coastal harbors and at the mouth of the Columbia and the Willamette River Basin flood control and reservoirs also reflect significant engineering deeds. All of these projects helped promote the growth and economic development of the region. For over 100 years, the Corps successfully applied technological and engineering expertise to the problem of water resource development in the Pacific Northwest (Willingham, 1983). Shortly after her time operating on the Columbia River, historical documents and photos place the vessel in Alaska. Prior to her launch in Alaska, the *Robert Gray* was re-painted war time gray and launched as LT-666 for support in Alaska during WWII.

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Army Transport Service (ATS) WWII - Alaska

With increasing hostilities in China, the U.S. Government became concerned about the possibility of attack from across the Pacific. In 1935, Brigadier General William Mitchell urged Congress to adopt a strong northern air defense, declaring, "I believe in the future he who holds Alaska will hold the world." In 1939 Congress established a Panama-Hawaii-Alaska defense triangle to protect

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America's vulnerable western coast (National Park Service, 2021). It was understood by many, that whoever controlled Alaska's Aleutian Islands during World War II controlled transportation routes in the Pacific. When the United States entered World War II in December 1941, much of the research, development and survey work conducted by the Army Corps of Engineers was halted and both staff and materials were entirely dedicated to support the war effort. The Robert Gray for instance went from surveying and economic development activities in Portland and Washington to serving in Alaska as Army Tug LT-666 during WWII. One of the two battles to take place on U.S. soil during WWII was in Alaska's Aleutian Islands. The LT-666 was assigned by the US Navy to the Army Transport Service (ATS) and was known to operate between Seward and Adak Alaska (McGuigan, 1947)³. Image 1 below demonstrates the location of operation between Seward and Adak.

The ATS operated Army transport ships for both troop transport and cargo service between United States ports and overseas posts (Clay, 1919-41). The population of Seward was 949 in 1940, but it had major strategic importance to the military planners. It was the largest settlement on the Kenai, the terminal of the Alaska Railroad, an ice-free port, and the year-round gateway to Interior Alaska. With new Army Air Corps facilities under rapid construction in Anchorage and Fairbanks, Seward was the route through almost all cargo and construction material would pass through -- not to mention food, fuel and ammunition.

Starting on June 3, 1942, the Aleutian Islands of Attu and Kiska were officially occupied by Japanese forces. Adak served as the forward staging base in the Aleutians for attacking Attu and Kiska. The ATS maneuvered vessels between Fort Raymond, a U.S. Army Post established in Seward, Alaska in 1942 and Adak Islands to supply support to troops holding the line between the United States and the Japanese Limit of Defense (see Image 2 below). The fort was named after Charles W. Raymond, who had served as a captain in the U.S. Army Corps of Engineers. At one point the garrison included more than 3,000 officers and men. The post was established to protect the dock and railroad facilities in Seward and included a stronghold and coastal and anti-aircraft artillery. These transportation facilities were critical to the buildup of military facilities throughout Alaska. Supplies and materials arriving by ship to Seward were transported to Anchorage and Interior Alaska via the Alaska Railroad. The Army troops stationed at Fort Raymond were used as stevedores when needed. The defense of Seward became less important after 1943 when the Japanese forces in the Aleutians were defeated and the threat of attack or invasion was greatly reduced (Fort Raymond (Alaska), 2020).

³ See Figure 14

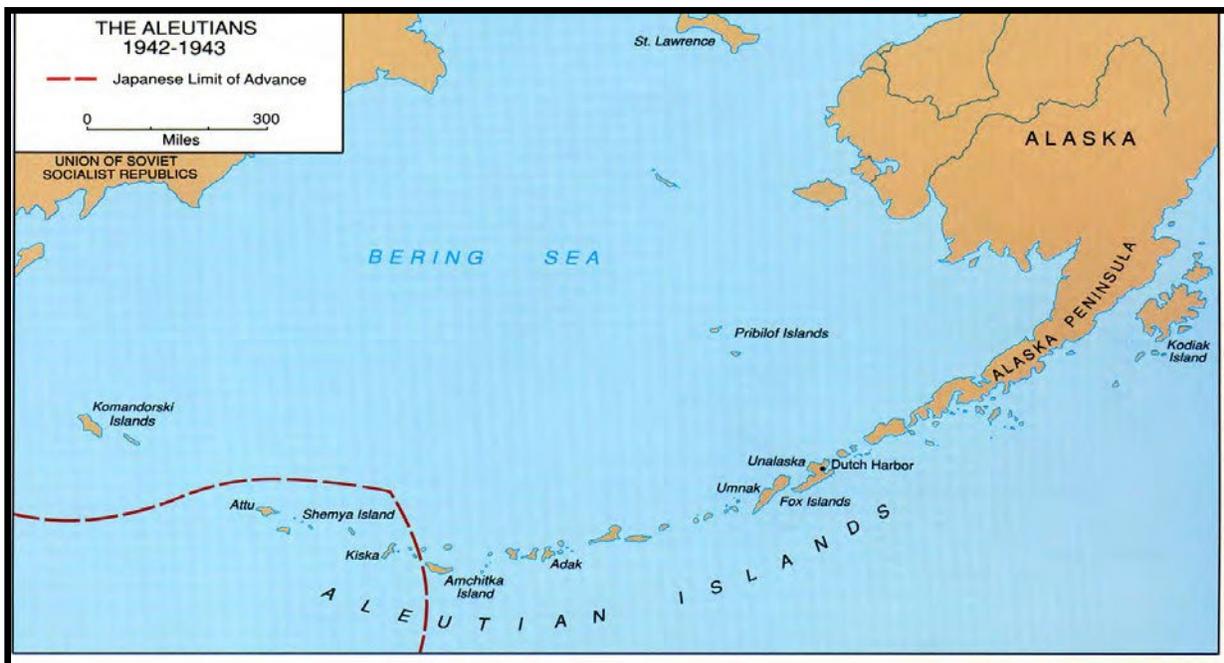
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Image 1: LT-666 transportation route between Seward and Adak and location of collision, Amchitka



Image 2: Aleutian Islands, AK Japanese Limit of Defense



Hydrographic Surveying During WWII

It is unknown if the vessel was utilized for its surveying capabilities while in Alaska during the WWII Pacific Theatre. It is known that the vessel continued to operate after the heightened stage of the War along the Aleutian Islands, as a documented collision with submarine chaser, PC-784

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(see Image 1 above), occurred in dense fog off the entrance to Amchitka Alaska in 1945(Cressman, 2019). If the vessel was engaged in surveying efforts for the Army or Navy, there were a wide range of duties available for hydrographic ships during this time. This included “classical wide-area hydrographic surveys designed to increase naval tactical operating areas and improve harbors and anchorages; amphibious assault surveys, which were classified into pre- invasion surveys, assault surveys and post-assault surveys, pre-invasion surveys were conducted off hostile shores and were often conducted by detached parties at night from rubber boats with hydrographers using lead-lines; and luminous compasses and pressure gauges for tidal observations.

The second class of survey work was the assault survey that required, in general, such activities as: 1) the location and marking of obstructions and hazards in the approaches to the landing beaches; 2) close development of the zone between debarkation of landing craft and high tide line on beach; 3) development of anchorage areas including layout of berths by number and establishment of lane markers; 4) small craft emergency refuge anchorages and beaching area; 5) anti-torpedo net locations; 6) blasting, surveying and marking small craft channels; 7) tanker moorings for fuel off-loading lines; 8) establishment and location of approach and night station-keeping lights; and 9) wire-dragging seaplane anchorages, runways and constricted traffic lanes. The post-invasion surveys that followed the initial assaults and major combat operations were more akin to standard peacetime surveys of various islands and harbors, although even these surveys were often subjected to air attack” (Theberge, 2015).

San Francisco Army Corps of Engineers

Early in 1946, the LT666 was declared surplus by the Army and was transferred to the San Francisco District of the Corps of Engineers. The vessel regained the original name, Robert Gray, and replaced the 20-year-old H.L. Demeritt, whose activities were largely confined to the Bay Area. The Robert Gray was assigned to operate from Monterey to Crescent City, primarily performing hydrographic surveys along the northern California coast, but first would undergo various overhauls and repairs at the Alameda Works Shipyard. “The Alameda Works Shipyard, in Alameda, California, United States, was one of the largest and best equipped shipyards in the country. The only building remaining from the yard is the Union Iron Works Powerhouse, which is listed on the National Register of Historic Places. Established in the early 1900s by the United Engineering Company, the yard was purchased by Union Iron Works in 1916 and came to be known as the Alameda Works. At the beginning of World War II, the Alameda Works was re-established as the Bethlehem Alameda Shipyard, and modernized and expanded to include new shipways and on-site worker housing. During the war, the yard repaired more than 1,000 vessels and produced P-2 Admiral-type troop ships, and it continued to produce structural steel” (Wikipedia, The Free Encyclopedia, 2019)

The modifications made to the vessel during this period included the construction of an observation tower which was installed on the deck above the drafting room. The tower was built complete with sliding plexiglass windows, a hinged door, an enclosed ladder and wood seating. The ship

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was re-painted inside and outside with the new colors of the Corps of Engineers, which replaced her wartime gray⁴.

United States Geological Survey (USGS) – Alaska and Washington

It is unknown the exact date the Robert Gray was transferred to the United States Geological Survey, but documentation shows that the current engine, a 1970 model year, was installed in 1970 by the USGS, so it is assumed that the vessel was transferred to the USGS sometime at or slightly before 1970 (See Figure 10). Shortly after the vessel's transfer to the USGS, the Robert Gray would be re-named the Don J. Miller II, in dedication of the highly revered geologist, Don John Miller. The vessel was built to withstand operational conditions in Alaskan waters and the Bering Sea, which served as an asset and resource to agencies like the USGS. Much of the work conducted by the USGS Alaska staff included mineral resource assessment along the Alaska Peninsula. This was a federally mandated effort and given the low-level of regional knowledge the USGS staff had at the time, they began a 15-year effort to map the geology and examine potential mineral occurrences, which would aid in understanding glacial history of the region. During this time, the USGS staff also responded to volcanic eruptions and discovered *four* previously unknown and extinct volcanoes within Alaska⁵.

Days were spent utilizing the vessel as a floating field camp, typically having a field party of four to eight scientists, a helicopter pilot and mechanic, and the ship's crew of four. Amidship there was a rudimentary laboratory for scientists to perform high level work. Most valuable was the flight deck and helicopter which was used to gain access to remote areas for land-based research.

Criterion C

The Robert Gray is eligible for nomination under Criterion C, as it was. The Robert Gray was propelled by the first ever system of its kind – a dual diesel electric propulsion system with highly designed matching prop and hull structure, and performed a variety of duties that served in the advancement and protection of our nation through research and state of the art hydrographic surveying work. The Robert Gray was built by Lake Washington Shipyards, in Houghton, Washington (now part of Kirkland, WA). The Lake Washington Shipyards began in the 1870s as a small boat landing owned by boat builder Frank Curtis, who launched his first steamship there in 1901. In 1923, the shipyard company was purchased by Charles Burckhardt, who renamed it the Lake Washington Shipyards (Stein, 2018). The yard received prominence in the 1930s with the construction of the streamlined ferry Kalakala and the unique propulsion system installed in the Robert Gray. There are three standout qualities that distinguish the vessel as a unique; the one of a kind diesel electric and vessel design integrated propulsion system, the architectural and engineering design that honed in on hull and propeller curvature, and the craftsmanship and use of the riveted high-iron steel building materials.

Although the original diesel electric power plant system is no longer installed in the vessel, it is important to note that much of the original propulsion system equipment remains integral to the vessel to include the drive shaft, shaft room, bearings, propeller and rudder and hydraulic steering mechanism. Also important to note is the large amount of publicity the vessel received between 1935 and 1947 specifically because of the uniqueness of the vessel and its propulsion system. The propulsion system alone does not serve the entire requirements and needs of the vessel. The system was chosen and created to deliver both the power low speeds needed to operate as a survey vessel.

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The original propulsion system in the vessel was diesel electric – essentially a hybrid system outfitted with two Enterprise propulsion engines, each driving a 225 KW 210/250 volt, 450 rpm main generator and 20KW 125 volt exciter. The “Westinghouse” generators supplied power to a 550HP, 252/300 rpm double armature propelling motor. These motors were first of their kind, specifically developed for the vessel to successfully perform slow propeller speed survey work while having a lighter machinery weight. The Enterprise Engine Corporation of San Francisco uniquely built two engines that would allow for constant speed with varying loads on the electric propelling motors – their state-of-the-art design was specially noted in at least three marine related articles dated between 1935 to 1947⁷.

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⁷ See figures 11, 12 and 15

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The vessel's fine lines demonstrate an excellent example of design and construction practices used in a bygone era. The existing hull, rudder and propeller was specially designed to move through the water in a highly efficient manner to support continuous low speed and low resistance performance capability. The naval architects and engineers created a hull curvature that is designed to integrate with the propeller curvature and are therefore designed to create maximum efficiency as documented in the curves of form. Interestingly enough, the Grandson⁹ of the lead Naval Architect in 1935, W. C. Nickum, is currently involved in the future planning of the vessel's clean energy repower using a hybrid propulsion system.

Lastly, the Robert Gray's hull is constructed of high iron steel which must be riveted to assemble – one of the first types of steel ever made and continues to demonstrate its quality through very low corrosion appreciated today at each vessel survey and by maritime professionals. Additionally, the Pacific Marine Review article published at the time of vessel launch states: “the vessel has the distinction of being the only steel ship built in a privately owned plant in the Pacific Northwest¹⁰”. Now viewed as a rarity, the vessel is made of riveted high iron steel– which is a craftsmanship that has been lost over the years in the U.S. since post World War II. Riveting steel requires four laborers and is a time consuming and skilled art. In 1997 it was estimated that only a few hundred U.S. workers still do the demanding work. Riveting has long been succeeded by welding to hold ships' plates together (Imhoff & Rasmussen, 1997).

9. Major Bibliographical References

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8

⁹ See Support Letter 19d from EBDG – Grandson is Will Nickum and is semi retired.

¹⁰ Figure 15

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Previous documentation on file (NPS): NA

- preliminary determination of individual listing (36 CFR 67) has been requested
- previously listed in the National Register
- previously determined eligible by the National Register
- designated a National Historic Landmark
- recorded by Historic American Buildings Survey # _____
- recorded by Historic American Engineering Record # _____

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_____ recorded by Historic American Landscape Survey # _____

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Primary location of additional data:

- State Historic Preservation Office
 - Other State agency
 - Federal agency
 - Local government
 - University
 - Other
- Name of repository: _____

Historic Resources Survey Number (if assigned): NA _____

10. Geographical Data

Acreage of Property

Use either the UTM system or latitude/longitude coordinates
Less than one acre

Latitude/Longitude Coordinates

Datum if other than WGS84: _____

(enter coordinates to 6 decimal places)

Latitude: 37.921340

Longitude: -122.371300

Verbal Boundary Description (Describe the boundaries of the property.)

Passenger ROBERT GRAY is currently located at USWC - US West Coast at position

Name: ROBERT GRAY

MMSI: 368158120

Call Sign: WDL7210

Flag: USA [US]

Length Overall x Breadth Extreme: 37 x 9 m

Boundary Justification (Explain why the boundaries were selected.)

The Boundaries above were selected as this is the primary location of the vessel

11. Form Prepared By

Name/Title/Organization: Stacy Calles, Big Sky Grant Associates LLC On behalf of

Name / Title / Organization: Brian Hofstetter, Fathom Ventures, LLC

Address: 454 Las Gallinas Ave. #1024, San Rafael, CA 94903

Email: brian@fathom-ventures.com; bigskygrantassoc@gmail.com

Telephone: 408-887-8014

Date: 2/15/2021

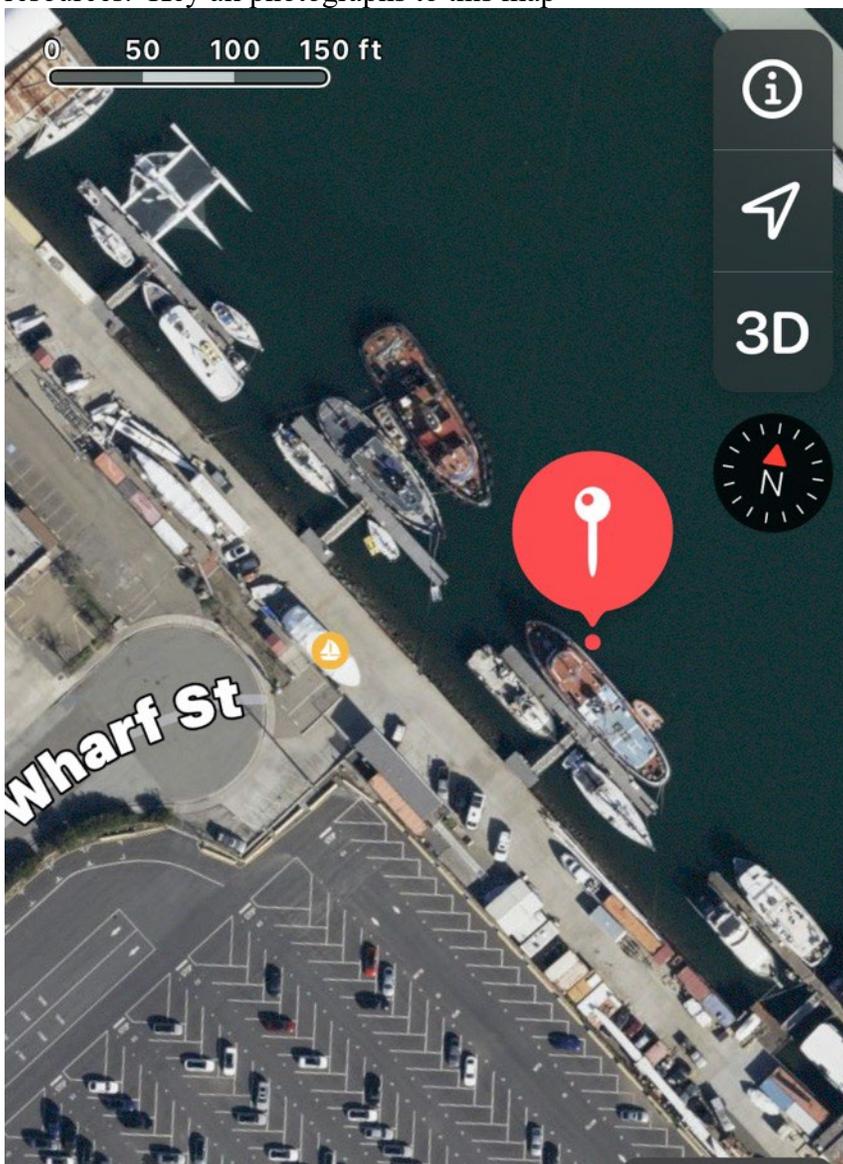
Robert Gray
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Additional Documentation

Submit the following items with the completed form:

- **Maps:** A USGS map or equivalent (7.5 or 15 minute series) indicating the property's location. NA
- **Sketch map** for historic districts and properties having large acreage or numerous resources. Key all photographs to this map



p. See Figure

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- **Additional items:** (Check with the SHPO, TPO, or FPO for any additional items.)

Attachments include Figures listed in Table 2 below. These documents represent historical photos, articles and letters related to the Robert Gray throughout its several service missions.

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Table 2: Figures of Historical Photos, Documents, Articles, and Letters¹¹

Figure	Location / Origin	Date	Description
Figure 1	Seattle, WA Corps of Engineers	1936	Full port side view at or near the time of launching
Figure 2	Seattle, WA Corps of Engineers	1936	Full starboard view at or near the time of launching
Figure 3	Corps of Engineers	1947	Post WWII full port side view with new observation tower added and ice breaker blade in place (later removed)
Figure 4	NA (WA?)	NA	Don J Miller II portside looking aft with flight deck extension and ice breaker blade bow
Figure 5	Nickum, W.C. Naval Architect – Lake Washington Shipyard Houghton Washington	1936	Blueprints of Fittings Water Piping Engine Room 1936 Lake Washington Shipyard
Figure 6	Nickum, W.C. Naval Architect – Lake Washington Shipyard Houghton Washington	1935	Blueprints of Port-light section & plan 1935 Lake Washington Shipyard
Figure 7	US Engineer Portland, Oregon	1934	Blueprint Outboard Profile of Robert Gray, 1934
Figure 8	US Engineer Portland Oregon	1934	Blueprint Inboard Profile of Robert Gray, 1934
Figure 9	San Francisco District Corps of Engineers, War Department	1947	Blueprint Outboard Profile Featuring Deck Plan Observation Tower of Robert Gray, 1947 Alameda, CA – Alameda/Bethlehem Shipyard
Figure 10	Halton Tractor, Caterpillar Portland Oregon	1970	Engine Quote for the USGS in 1970. Engine model year is 1970, confirming purchase in 1970 and end in historic period
Figure 11	The Log Publication	1936	“The Log” Publication January 1936 Discussing Unique Diesel Electric Propulsion System
Figure 12	The Log Publication	1936	The Log Publication October 1936 Discussing the Diesel Electric Propulsion System and Function of Vessel
Figure 13	US Army Ships and Watercraft World War II	1987	WWII Watercraft Book Discussing LT666 (Bottom Left) and her time with the USGS
14	US Geological Survey, Puget Sound WA	1978	Notes on Acquisition of High-Resolution Seismic Profiles in Southern Puget Sound, Washington

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Figure 15	Pacific Marine Review, San Francisco CA	1947	Pacific Marine Review Article Discussing Repairs at the Historic Alameda Shipyard, Under Ownership of the San Francisco Corps of Engineers
Figure 16	NA	1961	Don John Miller Memorial (electronically)
Figure 17	Lake Washington Shipyard, Houghton WA – W.C. Nickum	1936	Curves of Form (electronically)
Figure 1	Pacific Marine Review, San Francisco	1936	Pacific Marine Review article discussing vessel launch
Figures 168 a-i	Various	2020	Nomination Letters of Support
Figure 17	Brian Hofstetter	2020	Sketch Key Map

11 All Figures are included electronically with nomination materials

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Figure 1: Full port side view (in white) at or near the time of launching

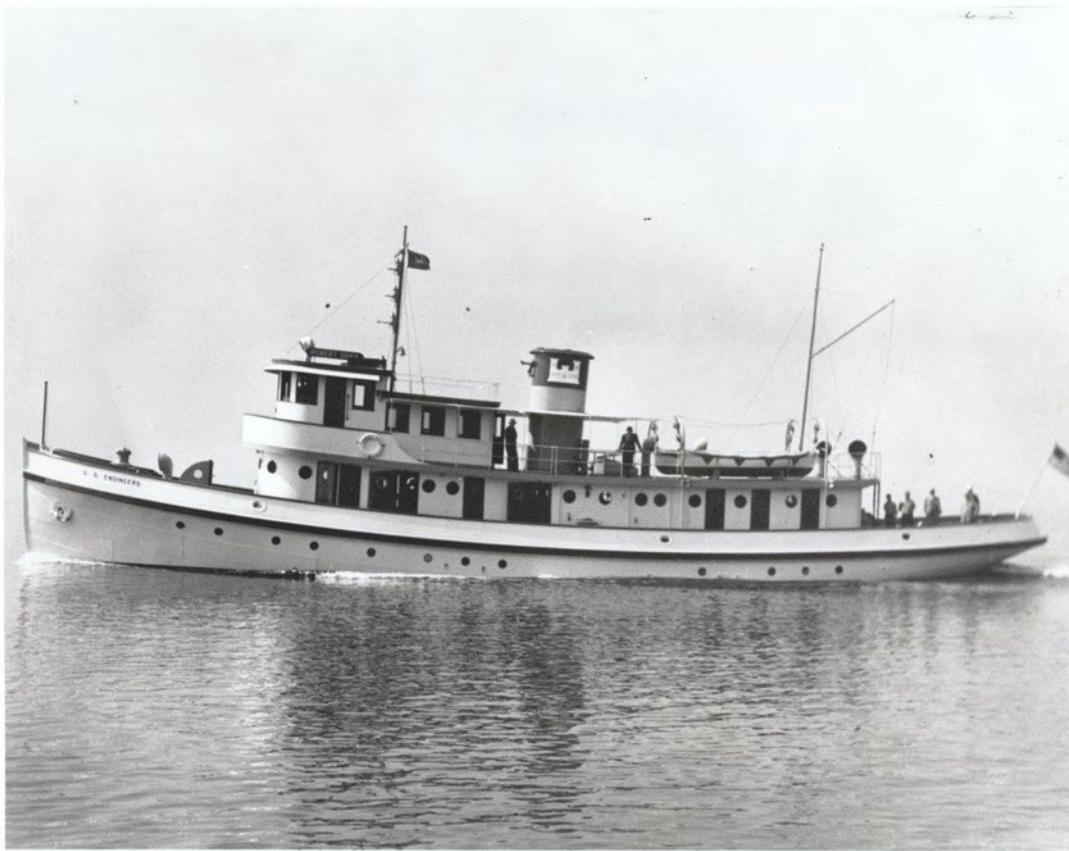


Figure 2: Full starboard view (in white) at or near the time of launching



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Figure 3: Post WWII full port side view with new observation tower added and ice breaker blade in place (later removed) (1947, Alameda CA)



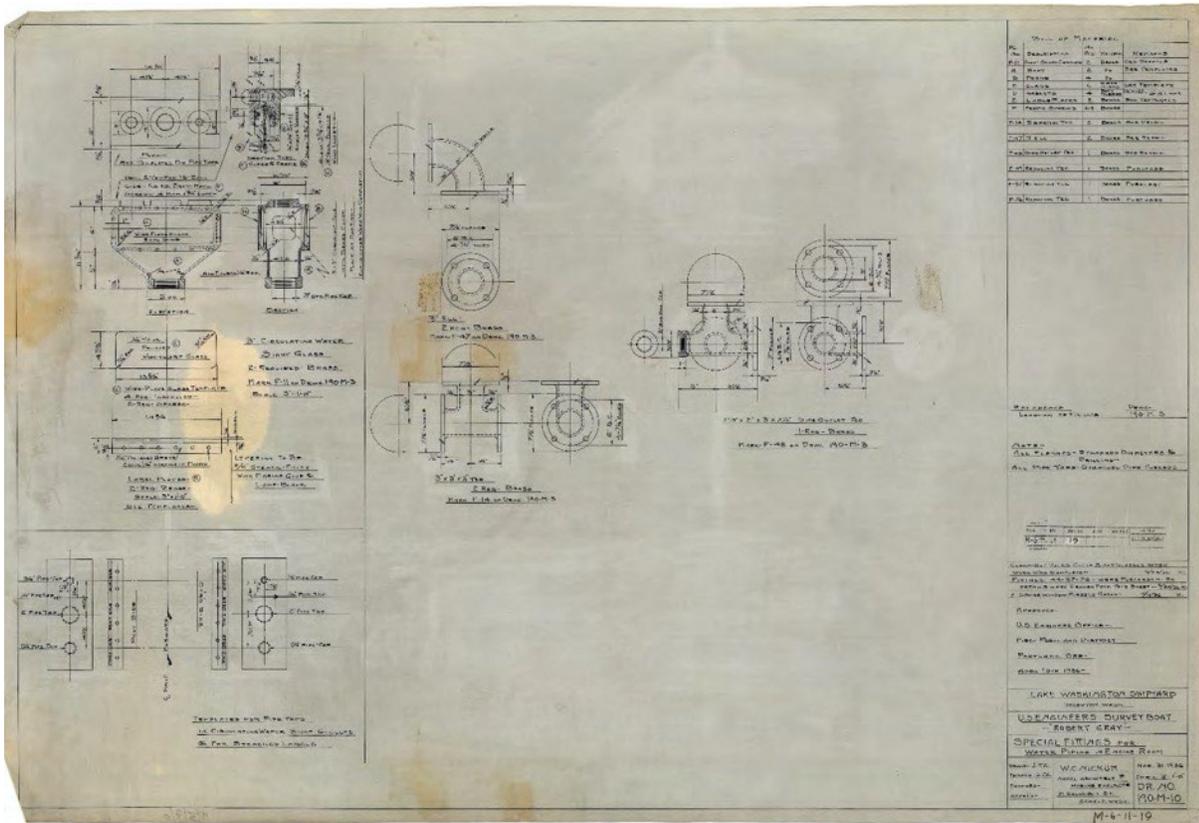
Figure 4: Don J Miller II portside looking aft with flight deck extension and ice breaker blade bow (Ballard WA). Photo taken while in service with the USGS



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Figure 5: Blueprints of Fittings Water Piping 1936 Lake Washington Shipyard



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Figure 6: Blueprints of Port-light Section & Plan 1935 Lake Washington Shipyard

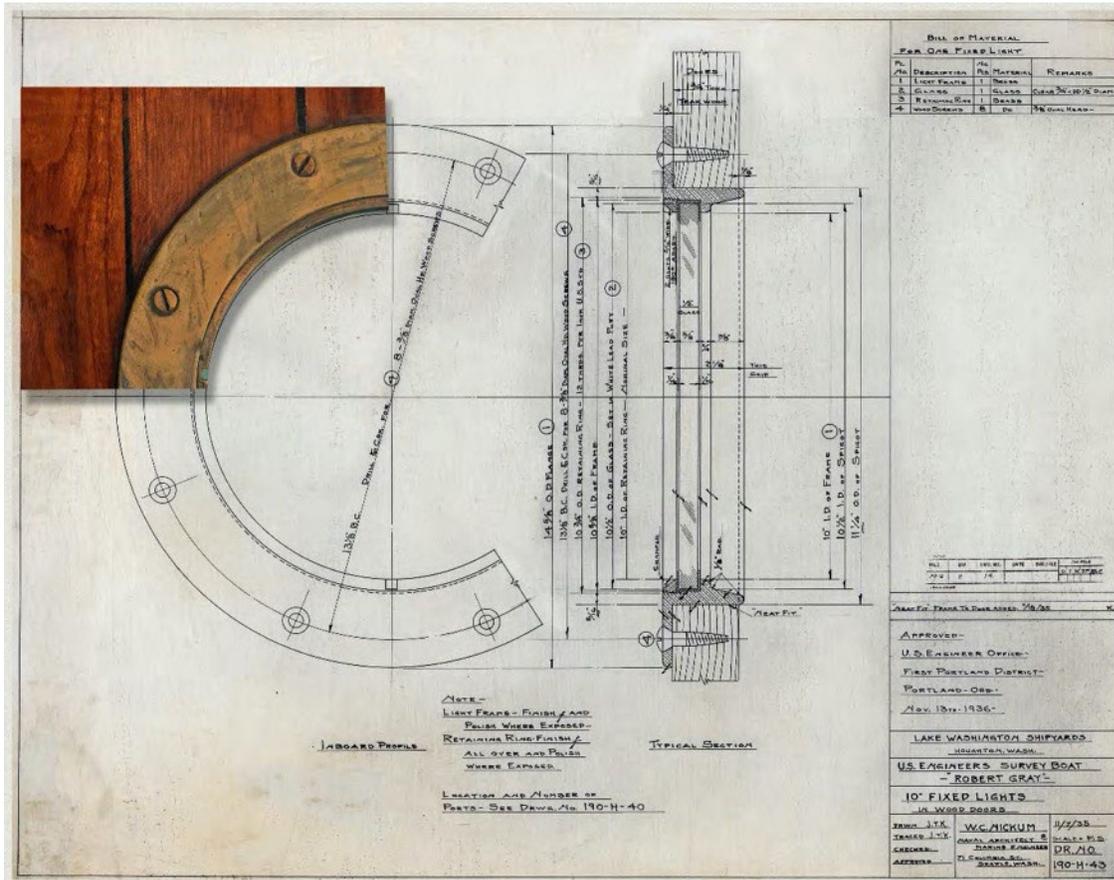
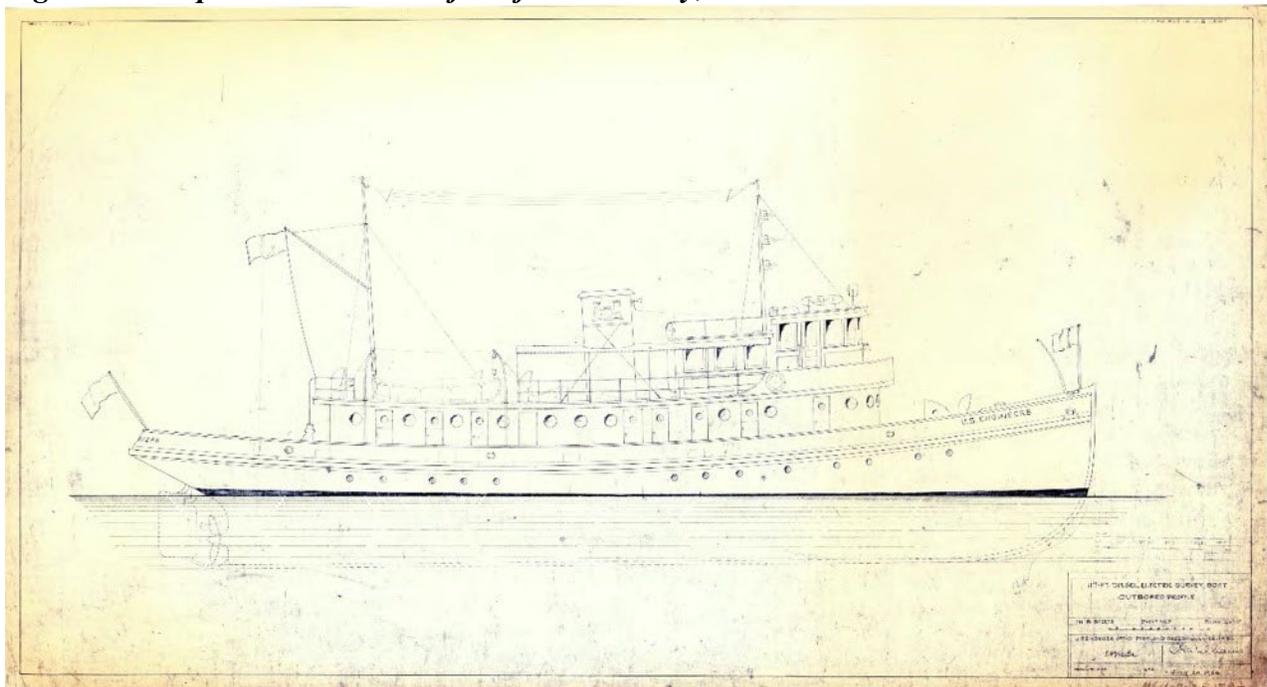


Figure 7: Blueprint Outboard Profile of Robert Gray, 1934



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Figure 8: Blueprint Inboard Profile of Robert Gray, 1934 **Figure 9: Blueprint Outboard**

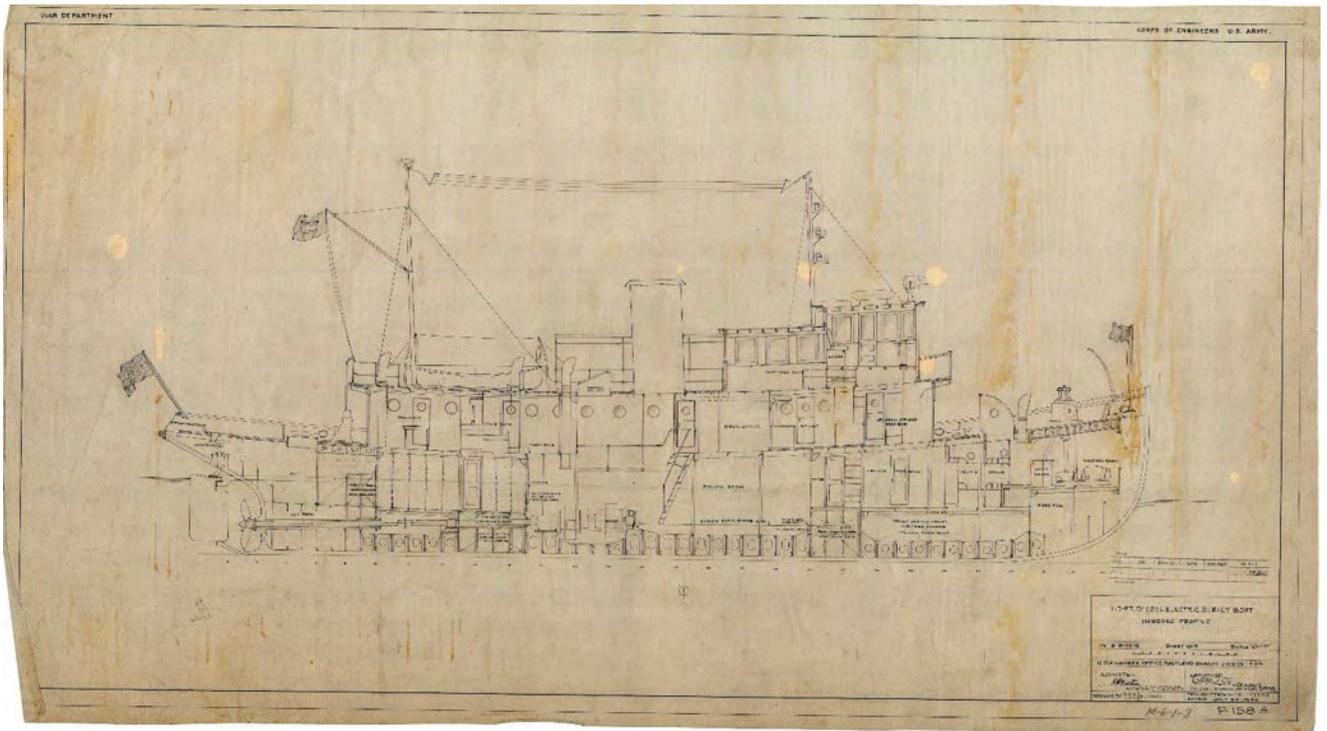
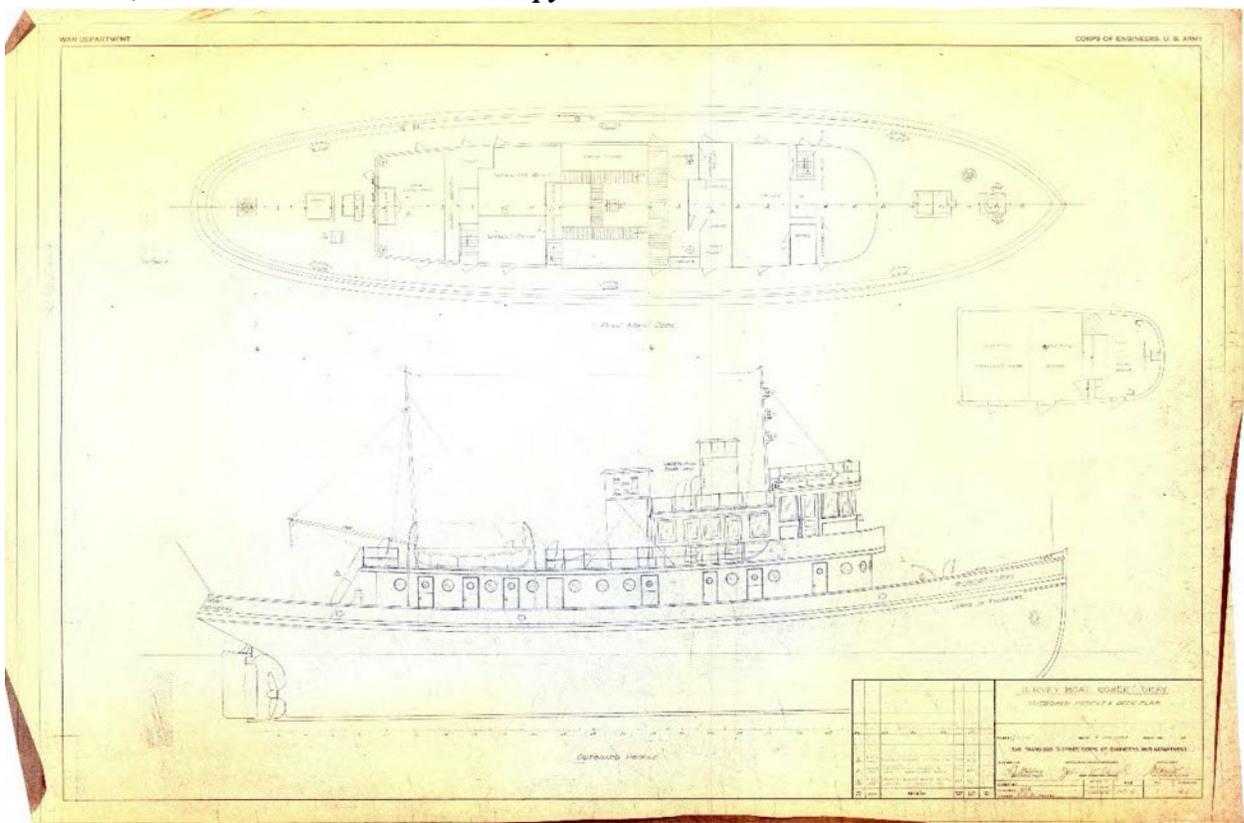


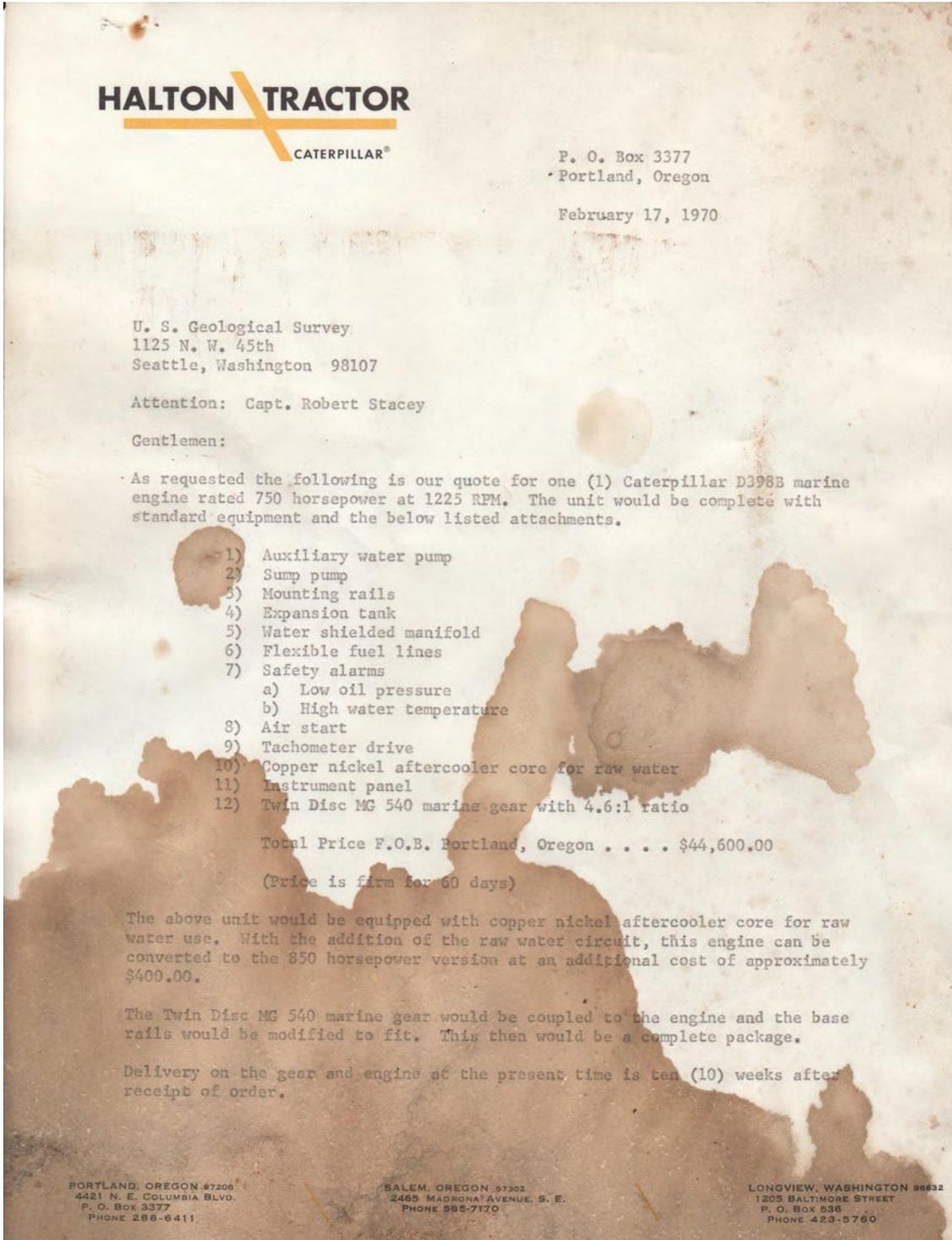
Figure 9: Profile Featuring Deck Plan Observation Tower of Robert Gray, 1947
Alameda, CA –Alameda/Bethlehem Shipyard



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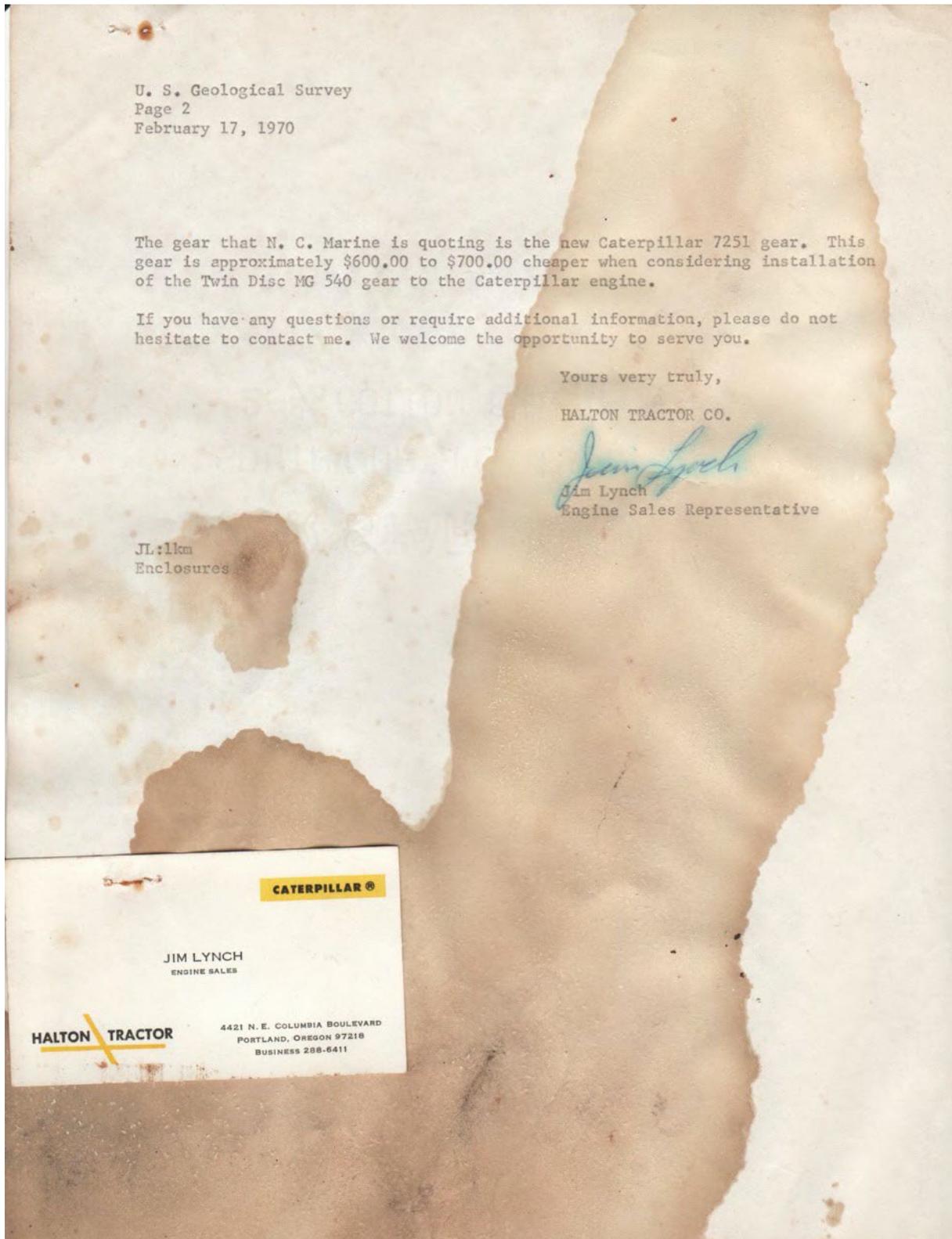
Figure 10: Engine Quote for the USGS in 1970. Engine model year is 1970, confirming purchase in 1970



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Figure 10: Continued



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Figure 11 (Pages 30-31): "The Log" Publication January 1936 Discussing Unique Diesel Electric Propulsion System



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JANUARY, 1936

The LOG

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1935 MARINE ELECTRICAL DEVELOPMENTS

By H. C. COLEMAN, Manager, Marine Electrical Engineering
Westinghouse Electric & Manufacturing Company
East Pittsburgh, Pa.

A REVIEW of the shipbuilding activity during 1935 reveals a continuation of the same situation which existed through 1934 and the last half of 1933, namely, a woeful lack of Merchant Marine construction but a welcome building program of considerable extent sponsored mainly by the Navy Department and to a slight degree by other Government branches. Because of this state of affairs, the largest and most important advances made in the actual installations of electrical apparatus for marine purposes have been in connection with Naval work and therefore of a confidential nature.

The Diesel electric system of propulsion continued to find favor in the field of small vessels. Early in 1935, the U. S. Public Health Service commissioned for duty at the Rosebank Quarantine Station, New York, its new inspection and fumigating vessel *W. H. Welch*. Unusual care was taken in the construction of the vessel both from hull and machinery standpoints. The entire hull and superstructure is of pure wrought iron and the propulsion machinery is of the Diesel electric type.

The propulsion plant includes two engine generator sets, each consisting of a 205 Kw., 250 volt main generator and a 25 Kw., 125 volt exciter, direct connected to a 360 rpm., Fairbanks-Morse, 7-cylinder engine. The two main generators furnish power to a 500 Hp., 250 rpm., double armature motor which is direct connected to the propeller. The conventional variable voltage control system is used, with both pilot house and engine room stations. The control board is of the latest compact cubicle type. The exciters furnish the power for separate excitation of the main generator and motor fields as well as power for all auxiliaries and lights. This vessel is a sister ship of the *Walter Wyman* which was commissioned in 1932 and had a similar propulsion plant.

Construction was completed in Spain this year on a special vessel, the *Artabro*, built for the Capt. Iglesias expedition to explore the upper reaches of the Amazon river. This ship is fitted with a Diesel electric propulsion plant. The generators and motor were built in Spain to American designs and the control board was built at East Pittsburgh. This plant consists of two engine generator sets, each comprising a 205 Kw., 250 volt, 575 rpm., main generator and a 50 Kw., 220 volt exciter and a 4-cylinder Burmeister & Wain engine; and a 500 Hp., 300 rpm., double armature propelling motor, with control board. The usual variable voltage system of control is provided with stations in the engine room and pilot house. This type of drive gives the pilot complete maneuvering control from the bridge and enables him to operate at very low speeds. These characteristics will be very valuable for navigating on an uncharted stream having many obstacles.

Another interesting vessel which went into service in December 1934 was the new lighthouse tender *Tamarack*, built for duty on the Great Lakes. She is

equipped with Diesel electric drive, having two Winton engines each driving a Westinghouse 185 Kw., 250 volt, 550 rpm., main generator and a 15Kw., 125 volt exciter. The propeller is driven by a 450 Hp., 400 rpm., double armature motor. Variable voltage control is utilized with engine room station only.

Work is now in progress on the construction of a Diesel electric propelling plant for a new survey vessel, the *Robert Gray*, for the U. S. Engineer Corps, for use on the Columbia River. There will be two Enterprise engines, each driving a 225 Kw., 210/250 volt, 450 rpm., main generator and 20 Kw., 125 volt exciter. The Westinghouse main generators will supply power to a 550 Hp., 252/300 rpm., double armature propelling motor. Control will be of the variable voltage pilot house type with more than the usual number of speed points, to provide for accurate maneuvering necessary for the special service in which this boat will be engaged. A novel feature of this installation will be the incorporation of special design features in the main generators and motor to provide for automatically maintaining constant shaft horsepower over a certain speed range on the propeller by special machine characteristics. This vessel is being built by the Lake Washington Shipyards, Houghton, Wash., and will be based at Portland, Oregon.

While no installations of turbine electric propulsion plants have been made in the past two years due to the lack of Merchant Marine construction, certain studies and research work has been carried on with the object of reduction in first cost and weight and improvement in performance of such drives. It is gratifying to be able to report that worthwhile accomplishments have been realized.

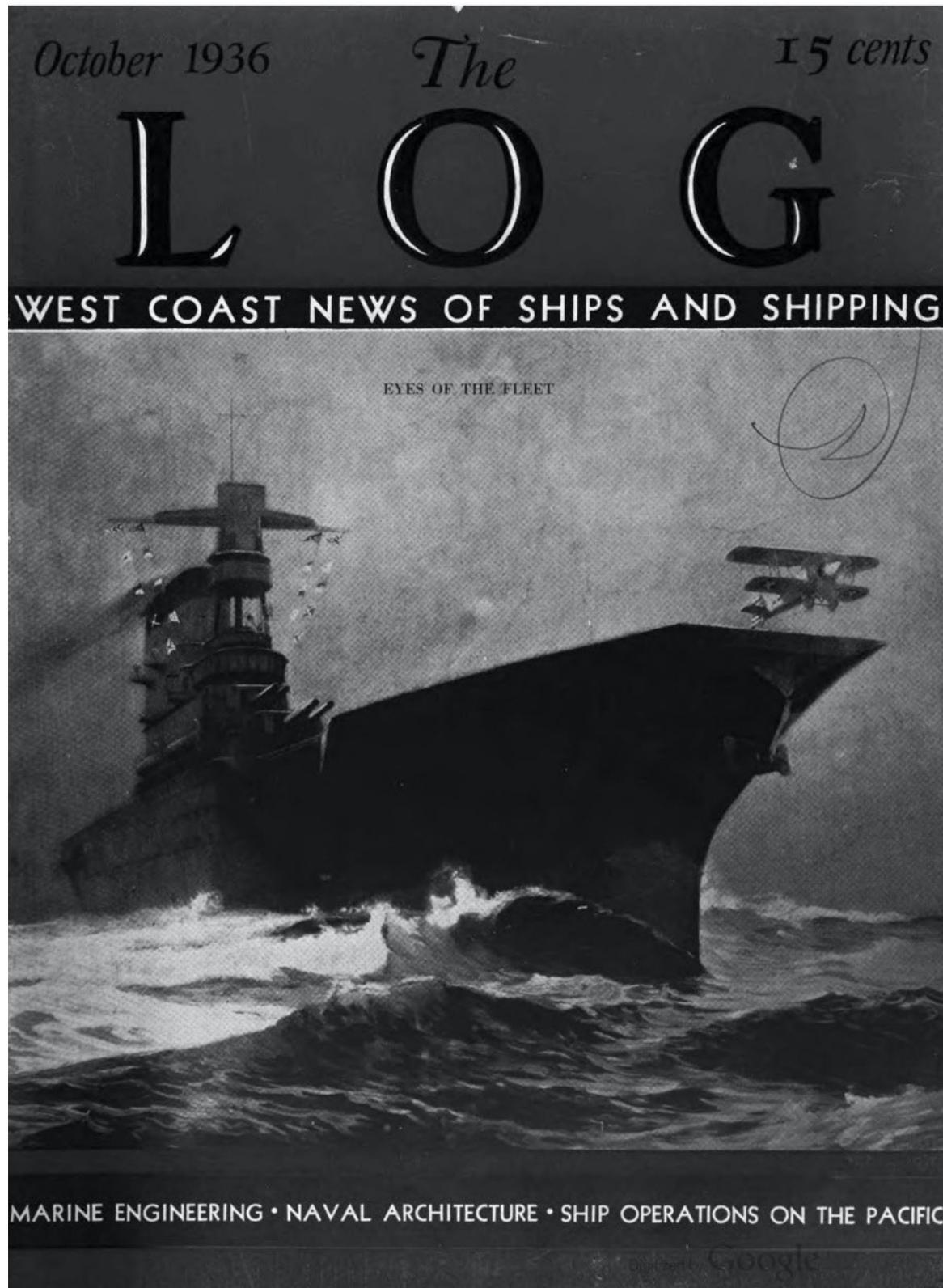
One of the most important direct current auxiliary installations will be on the two new 11,000 ton tankers being built at the Sun S.B. & D.D. Co., for the Gulf Refining Company. Each vessel will have two 125 Kw., and one 25 Kw., turbine generator sets which will furnish power to seventeen motors with a total Hp., of over 200, excluding cargo pumps, which are steam driven.

The year 1936 holds promise for important and necessary renewed action in Merchant Marine building and the release of considerable work is held pending the enactment of legislation definitely setting the Government's Merchant Marine policy. It is hoped that this will be done early in the next session of Congress. When it is realized that only 2.9 percent of our sea going freighter and 13 percent of our tanker tonnage is under 15 years old, it becomes obvious that vigorous measures must be taken soon if we are to maintain or improve our position in world shipping. Time-tried, sea-going electrical apparatus is ready and waiting to play its significant part in the efficient operation of the modern ships our American Merchant Marine so urgently needs.

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Figure 12: The Log Publication October 1936 Discussing the Diesel Electric Propulsion System and Function of Vessel



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The LOG

OCTOBER, 1936



U.S. Survey Boat *Robert Gray*

DIESEL-ELECTRIC SURVEY BOAT *ROBERT GRAY*

THE latest Diesel-electric propelled vessel to go into service is the new survey boat *Robert Gray*, recently completed by the Lake Washington Shipyards of Houghton, Washington, for the Portland, Oregon, district of the U. S. Army Engineer Corps.

Designed by O. A. Seigley, associate naval architect from the Engineers' office at Portland, the *Robert Gray* is of steel construction throughout, and has an O. A. length of 117 feet 11 inches, a beam of 25 feet, and a mean draft of 8 feet 6 inches. The general arrangements provide for accommodations for eight men on the lower deck forward, complete with washroom and shower. Aft of the engine room, on the lower deck, are four compartments one of which may be used as quarters for a survey crew of five men. The extreme after part of the lower deck is for storage of supplies.

Of particular interest is the single-screw propelling and auxiliary machinery equipment. In survey work, it is frequently necessary to operate at low propeller speeds and at the same time maintain engine efficiency. Slow speed engines would have necessitated much heavier engines, therefore, to obtain lighter weight machinery with slow propeller speed, it was decided to utilize Diesel-electric drive which made possible the use of light-weight high-speed engines. For this purpose, the Enterprise Engine Corporation of San Francisco furnished two Type DSF6, 11½" x 14", 6-cylinder, 360-horsepower, 450 R.P.M. marine Diesel engines of the four-cycle mechanical injection type. An extremely sensitive Woodward hydraulic governor is provided on each engine which permits constant speed of the Diesel driven generators with varying loads on the electric

propelling motors. During the speed trials, after a four-hour continuous full speed run the motors were slowed down to 60 R.P.M. giving a speed of 2.86 knots without decreasing the efficiency of the Diesels. Each of the Enterprise Diesel engines is direct coupled to Westinghouse 225-kw main generator and 20-kw Westinghouse exciter, or auxiliary generator. The two generator units supply power to a Westinghouse double armature propelling motor rated at 550-horsepower, 300 R.P.M. The propelling motor is connected to the propeller shafting through a Kingsbury thrust bearing.

Complete switching and propulsion control is centered in a compact cubicle located in the engine room. This control unit is of the complete dead front type, comprising sheet steel panels which carry the instruments and operating hand wheels and levers for the switches and rheostats, all of the live parts being mounted in the rear and protected by grille work at the ends and back of the structure. The propulsion panel carries a large hand wheel which operates a special set up drum in the rear. This drum comprises cam-operated contactors. The hand wheel has three positions. The central position closes the correct cam contactors for connecting the armatures of both main generators in series with the two armatures of the propelling motor. At the same time the proper field connections are made to the excitation bus and to the speed control. By moving the set up drum hand wheel to the left position the proper switches are closed so that propulsion may be obtained from the port generator only, the starboard generator being entirely removed from the circuit. The corresponding right hand position

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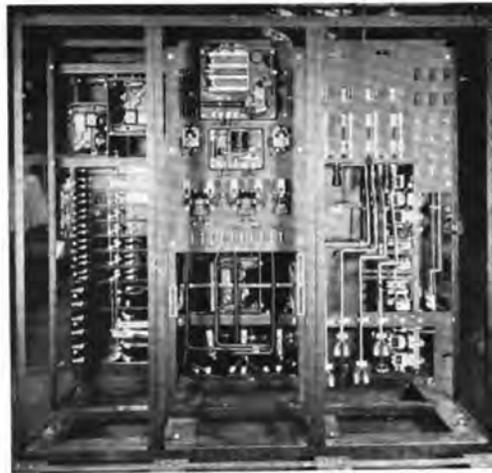
OCTOBER, 1936

The LOG

11

provides for propulsion from the starboard generator only. Thus, by means of this arrangement, either generator may be taken out of use without delay and the boat operated from the remaining generator. In order to take care of an emergency condition which might arise in case one armature or field of the double armature propelling motor should become inoperative, double-pole double-throw knife switches are provided in the rear of the control unit by means of which either armature, together with its field, may be disconnected and operation continued on the remaining half of the unit. The excitation bus may be supplied from either of the 20-kw exciters and a drum selector switch is mounted on the main control panel, by means of which exciter selection is made. An automatic arrangement is provided, utilizing a voltage relay and contactor so that in case the voltage of the exciter, connected to the excitation bus, fails, the exciter bus is automatically connected to the other exciter. Upon restoration of voltage on the first exciter the transfer device reconnects the excitation bus to the original set up.

Complete pilot house control is provided from a pedestal of the ship's telegraph type, the control lever on this pedestal being connected through shafting and gears to a drum controller located beneath the pilot house. This controller, together with the field resistors which are mounted adjacent to it, provides twelve operating speeds ahead or astern. An instrument panel is mounted in the pilot house, indicating the propeller rpm. A duplicate motor speed drum controller is mounted on the propulsion panel of the main control unit in the engine room and a transfer switch is provided so that either this control station or the one in the pilot house may be used. A feature of the engine room control cubicle is the distribution panel for the ship's auxiliary circuits. Each circuit is fed from the auxiliary panel through type AB de-ion circuit breakers making a compact dead front distribution board. There are two auxiliary buses both of which may be fed from either exciter or the emergency, auxiliary generator through a drum selector switch. The emergency auxiliary unit consists of a Diesel

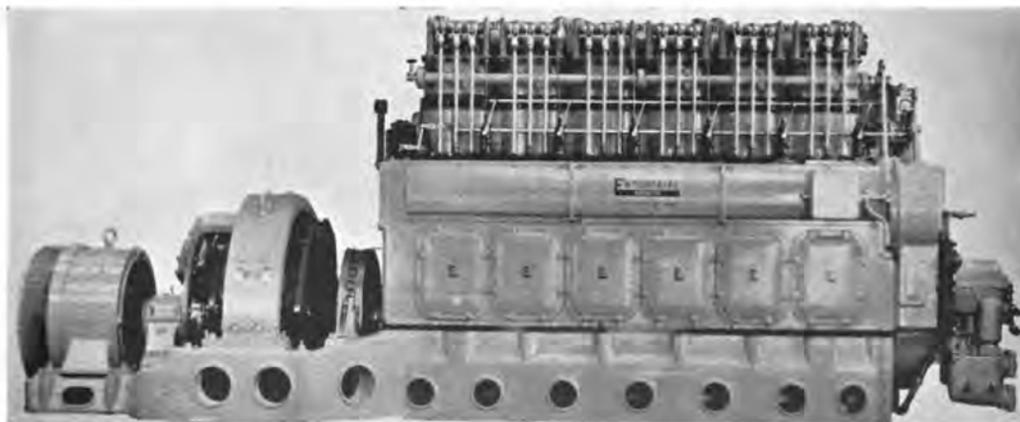


Rear view, Main Control Panel

driven 20-kw Westinghouse generator. Westinghouse motors and controls were furnished for the anchor windlass, air compressor, fire and bilge pump.

Prominent in directing completion of the *Robert Gray* was Lieut.-Colonel Fox, district engineer of the first Portland district. There was also Hugo Hass, chief Diesel engineer of the Engineer Corps who was in Seattle for the trials and acceptance of the vessel.

The *Enterprise* Diesel engines installed in the *Robert Gray* are a completely new design developed by the *Enterprise Engine Corporation* of San Francisco during the past three years. Pacific Coast shipping and allied industries will find it interesting to note the recent announcement by *Enterprise* that their Diesel engines are available for medium and heavy service in sizes from 40-horsepower to 1,000-horsepower, direct reversible or for electric drive.



Enterprise Diesel engine with Westinghouse generator and exciter units connected

Robert Gray
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Figure 13: WWI Watercraft Book Discussing LT666 (Bottom Left) and her time with the USGS

LT	ST	Name or Former Name	Hull	L	W	D	Engines/HP	Builder
910-915	—	—	—	—	—	—	—	(Harbor boat register, but not spec. list, indicates Burger built these numbers.)
916-917	Cancelled	—	—	—	—	—	—	—
918-923	—	—	St/1	45	13	7	dies/170	Sturgeon Bay Shipbldg. & DD, Sturgeon Bay, WI, 1945
924-929	—	—	—	—	—	—	—	(Harbor boat register, but not spec. list, indicates Sturgeon Bay built these numbers.)
930	—	<i>Hinemoa</i> , purch.	—	—	—	—	—	—
931-932	—	purch. cancelled	—	—	—	—	—	—
933	—	<i>Sandra Foss</i> , purch.	—	—	—	—	—	—
934	—	<i>Skagit Belle</i> redesignated from FS 235	—	—	—	—	—	—
935	—	Redesignated from ST 731	—	—	—	—	—	—
936	—	Redesignated from T 22	—	—	—	—	—	—
937	—	<i>Bridgeport</i>	St/1	88	23	10	2 6-cyl dies/700	John H. Mathis, Camden, NJ, 1932

Sources: List of construction contracts of Transportation Corps; Register of Harbor Boat Designation Numbers; American Bureau of Shipping Record; Merchant Vessels of the United States.
¹Harbor Boat Register shows the builder of ST 164-170 to be A. W. Lewis.
²Specifications list shows the builder of LT 647-648 to be Tampa Marine.
³DPC is the Defense Plant Corporation, a federal agency which provided capital to be used by the private sector for construction of defense production facilities. Tugs and barges were constructed under the supervision of the Corps of Engineers for the Defense Plant Corporation.



The *Robert Gray*, LT 666, was a state-of-the-art diesel-electric tug when the Corps of Engineers built her in 1936 for use in Alaska. Fifty years later she was reportedly still working there, but for a different boss—the Geological Survey. Corps of Engineers, Seattle District)



Reaching her destination, this oceangoing tug, LT 538, has let go her tandem tow and has come alongside of it—a car float that is carrying piggy-back (but upside down) a wooden barge. Considerable ingenuity was required in getting barges and small craft across the ocean. (Signal Corps)



The LT 579 was one of a class of ocean specifications to the Navy's ATA class.



The ST 27, shown here in Newfoundland Archives)

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Figure 14: Pacific Marine Review Article Discussing Repairs at the Historic Alameda Shipyard, Under Ownership of the San Francisco Corps of Engineers



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Bethlehem Repairs the Robert Gray

By F. S. McGuigan, manager
Bethlehem Steel Company
Shipbuilding Division Alameda Yard

Soon to become a familiar sight in Northern California coastal waters from Monterey to Crescent City is the Corps of Engineers survey boat *Robert Gray*, which has

Area and which is now being retired from service.

One of the high lights of the work performed on the *Robert Gray* at the Alameda Yard was construction of an observation tower which was installed on the deck above the drafting room. This tower is complete with sliding plexiglass windows, hinged door, enclosed ladder and wood seating. Windows slide on cast bronze tracks. The top track is fitted with a locking device for each

(Please turn to page 104)



The Corps of Engineers' Survey Boat *Robert Gray* upon completion of her observation tower.

Bethlehem Repairs the Robert Gray

By F. S. McGuigan, manager
Bethlehem Steel Company
Shipbuilding Division Alameda Yard

just been completely overhauled at Bethlehem's Alameda Yard and fitted with an observation tower, first of its type ever to be installed on a ship. It has the appearance of a second stack giving a rakish profile to the craft.

The *Robert Gray*, which was built at Lake Washington in Seattle in 1937 for operation as a Corps of Engineers survey vessel in the Portland, Oregon, district, is 117 feet long, has a beam of 25 feet and a gross tonnage of 265. It is powered by two 6-cylinder, 4-cycle, 360 hp diesel engines, both of which were completely dismantled, overhauled and reassembled at the yard.

From 1937 until 1942 the vessel made hydrographic surveys along the Columbia River. In that year she was taken over by the military and operated in Alaskan waters between Seward and Adak by the Army Transport Division as a tug boat (LT 666).

Early last year she was declared surplus by the Army and transferred to the San Francisco district of the Corps of Engineers who brought her down under her own power. She replaces the 20-year-old H. L. Demeritt whose activities have been largely confined to the Bay Area and which is now being retired from service.

One of the high lights of the work performed on the *Robert Gray* at the Alameda Yard was construction of an observation tower which was installed on the deck above the drafting room. This tower is complete with sliding plexiglass windows, hinged door, enclosed ladder

Robert Gray
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Contra Costa, CA
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The upper deckhouse on the boat deck connecting to pilot house was extended and provision made for a visiting officers' stateroom and drafting room.

The pair of davits on the port side of the aft house were removed and in their place a pair of boom type davits were installed. A 22-foot survey boat of plywood and oak framing was specially constructed.

While on duty in Alaska, the anchor windlass was submerged and filled with salt water when the ship collided with an ice pack, necessitating complete dismantling, cleaning and overhauling of motors, controls and machinery.

A depth recorder was installed while the ship was in drydock.

The ship was completely painted outside and inside with the new colors of the Corps of Engineers, replacing the war time gray.

Fresh water tanks and fuel oil tanks were completely cleaned.

The towing winch was removed from the aft end of

as much nickel in the earth's crust as there is copper, zinc and lead combined.

The important position of Canada in nickel production has been maintained by the constant effort to uncover and develop its ore bodies, to create better methods of getting that ore out of the earth and to provide economies in its smelting and refining.

The success of research in developing new and improved nickel alloys has resulted in the extensive use of nickel in the United States, in the production of materials for improved equipment requiring qualities of strength, toughness and resistance to corrosion, wear and heat, as well as other special and useful properties.

This book was printed originally in Canada in answer to the requests in that country for the story of one of its major enterprises. In view of the many applications of nickel in the United States, it was felt that an edition in this country of THE ROMANCE OF NICKEL would also be of interest.

Page 104

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PACIFIC MARINE REVIEW
UNIVERSITY OF MICHIGAN

Bethlehem Repairs Robert Gray

(Continued from page 72)



At the left: Boring hole for rudder skeg grudgeon bushing in new skeg. Place where this was thermit welded to old skeg is clearly visible.

F. S. McGuigan, manager of Bethlehem's Alameda Repair Yard and author of this article, graduated from the University of California in 1931 with a B.S. degree. He took post-graduate work at Stanford University in 1939 and 1940, for which he received a degree in Mechanical Engineering. In February, 1941, he joined Bethlehem as a Sales Engineer of the San Francisco Yard. Later that year he was transferred to Bethlehem's Alameda Repair Yard where he became assistant manager. He was appointed to his present position as manager of the yard in August, 1945.



the deckhouse. In its place a cast steel towing winch was installed.

Approximately 8500 linear feet of weather wood decking on main deck, boat deck and around the pilot house were caulked.

Other items included drydocking, cleaning and paint-

Robert Gray
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sash and the bottom track fitted with stainless steel rollers and pins.

Another important item on this job was installation of a new forged steel skeg at the lower portion of the stern post. The old section was burned off at frame 1, and a new section forged, machined and thermit welded in place parallel to the base line. Size of the rudder was increased 10½" to suit the new skeg.

Cracks in the saddle of #4 main bearing on both sides of the starboard main engine, also in the engine bed plate, and in engine "A" frame in way of #4 main bearing, were repaired by a special process. A new crankshaft was installed in the starboard engine, replacing the one which was damaged. All auxiliary engines and motors were dismantled, overhauled and reassembled.

The after mast was removed and a heavier wood mast installed in its place. This was fitted with a new boom 17 feet long complete with galvanized bands and fittings. Two small hand winches of 500 lbs. capacity, each single line pull equipped with brake and ratcheted panel, were installed at the mast base for topping fit.

Other items included drydocking, cleaning and painting. Before the outside hull was painted it was sand blasted from keel to bulwark rails.

The *Robert Gray* passed her test run with flying colors and has now begun her new job of making hydrographic surveys along the Northern California coast.

Among the New Books

THE ROMANCE OF NICKEL published by The International Nickel Company, Inc., 6"x9" in size, 60 pages, well illustrated with line drawings.

This informative book relates the history of nickel down through the ages, how nickel is produced, and what it is used for together with present research and predictions for its future. The uses of Nickel are many and varied in our everyday life, and the comparative recent development of nickel, especially in the mining of nickel in Canada, Celebes, Cuba, New Caledonia, Norway and Russia, and in smaller amounts in several other countries. Scientists estimate that there is about twice as much nickel in the earth's crust as there is copper.

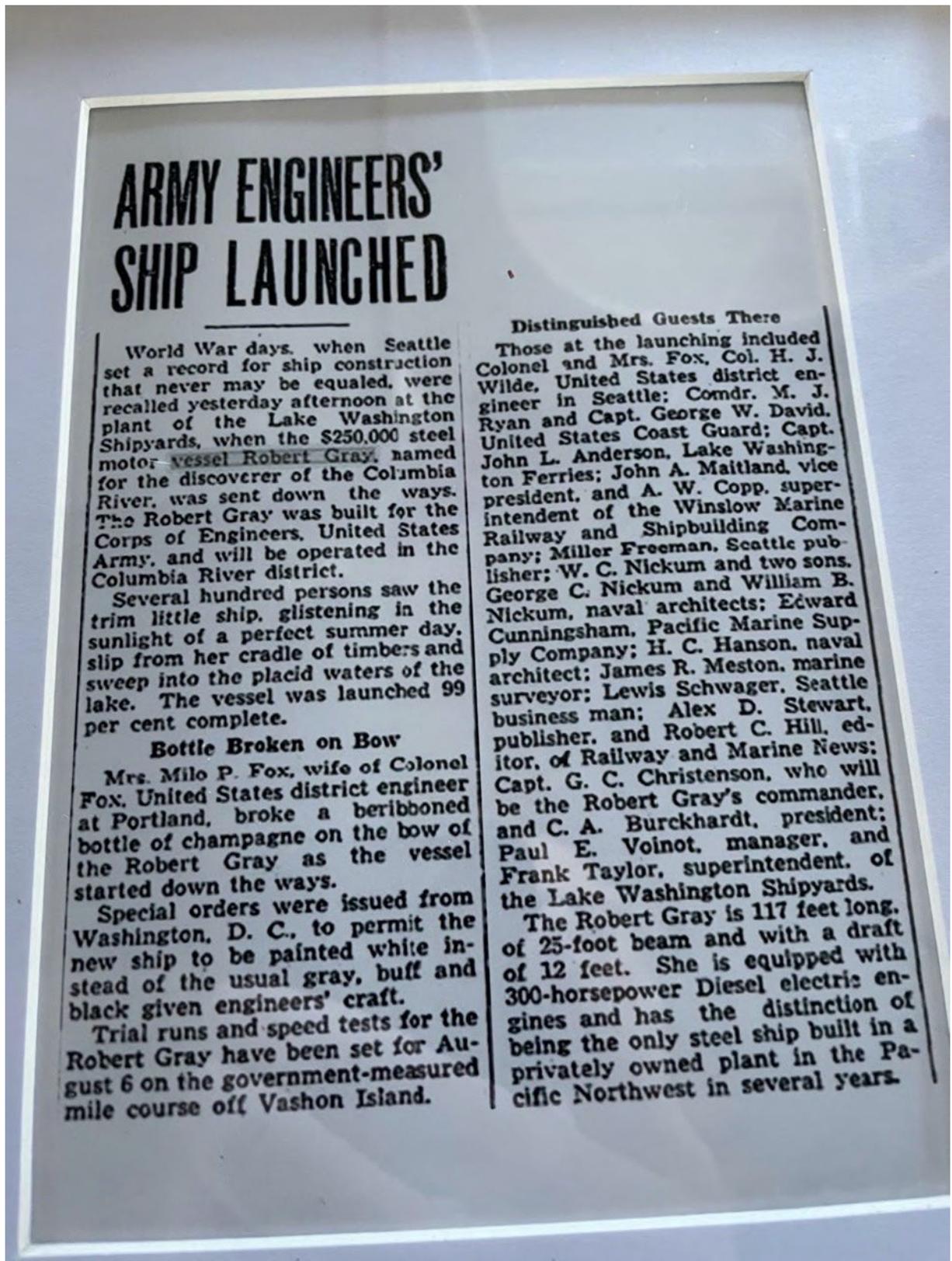


Atop, left: The *Robert Gray* as she looked before installation of her new observation tower. Center: Workman installing plexiglass window in observation tower. Right: The *Robert Gray* in her new coat of paint with her new observation tower virtually complete. At bottom, left: Sandblasting the hull on the *Robert Gray*. Center: Thermit welding new section of skeg for rudder, which was enlarged to give better steering control. Right: Stern section showing new skeg extension and enlarged rudder in place.

Robert Gray
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Figure 15: Pacific Marine Review Article – Ship Launched



Robert Gray
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Figure 16a -Rick Wilson USGS Letter of Support

Sacajawea's National Register Nomination Support Letter

Frederic H. Wilson
2420 Glenwood St.
Anchorage, AK 99508

February 3, 2021

Department of Parks and Recreation
State Historic Preservation Officer
Office of Historic Preservation
Julianne Polanco
1725 23rd Street, Suite 100
Sacramento, CA 95816-7100

Re: Nomination for the Historic Vessel, Sacajawea – Letter of Support

Dear Julianne Polanco.

I would like to express my support for the Nomination of the vessel "Sacajawea" to the National Register of Historic Places, administered by the National Park Service, U. S. Department of the Interior. Authorized under the National Historic Preservation Act of 1966, the National Register is part of a national program to coordinate and support public and private efforts to identify, evaluate, and protect historic and archeological resources. The Sacajawea formerly operated under two vessel names and a US Navy designation: the Robert Gray, the Don J. Miller II and LT666. Originally named after Robert Gray, the first American to circumnavigate the world (1787-1790), the survey ship was approved for construction in 1927, with President Calvin Coolidge's office approving the vessel's white dress paint scheme. Launched by the War Department in 1936, the Robert Gray's mission was to enhance hydrographic charts during World War II and the Cold War. In the 1960s the ship was acquired by the United States Geological Survey Branch of Alaskan Geology to support geologic mapping and mineral resource assessment studies in Alaska. Renamed the RV Don J. Miller II in honor of a highly respected USGS geologist who had perished during fieldwork, the ship was extensively used in southern Alaska and at one point sailed into the Bering Sea to support research projects there.

I worked on the RV Don J Miller II between the years of 1977 to 1984 and also was a participant in its last cruise as a USGS vessel in 1985. The projects I worked on were along the Alaska Peninsula, that chain of mountains that extend out to the Aleutian Islands. We used the ship as a mobile field camp, using a helicopter for transport to our work areas each day. Up to that time the ship had been primarily used for work in southeast Alaska or Prince William Sound. Along the Alaska Peninsula, we encountered conditions quite different from that in those areas, with more extremes of weather and less infrastructure for support. The ship carried several skiffs for shoreline work, which were commonly used elsewhere but, along the Alaska Peninsula the seas were too rough and weather changes too rapid for regular use of the skiffs. Working off the Don J. was always a pleasure in spite of the challenges along the Peninsula.

My first year aboard, I was a young geologist and had no experience around ships or even boats. We sailed out of Kodiak Alaska, heading to the Alaska Peninsula in early June or late May, 1977. The weather was beautiful as we sailed through the Kodiak archipelago --- almost like a vacation. It was a long cruise and I'd gone to bed by the time we arrived at our intended destination. My cabin was the small one below decks at the stern of the ship. I had the upper bunk, which had a pipe crossing it about 18 inches up. I was sound asleep until the engines suddenly stopped. This woke me and I wondered what had gone wrong! Then there was a very loud grating sound as something hit the hull and I panicked that we had hit something - I sat up suddenly, not thinking about the pipe until my head crashed into it. I'm sure you can

I

Robert Gray
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Contra Costa, CA
County and State

Sacajawea's National Register Nomination Support Letter

imagine my thinking at that moment as I thought I was going to die. I later learned that of course everything was fine and that the noise was the anchor chain going out.

As the season progressed (our project was on board for about a month), I got used to the ship and we had many adventures and worked through several major storms. One storm kept us onboard for 9 days and when we finally got off the ship on land, if we tried to stand still, we'd get dizzy if we didn't rock back and forth!

Later, we were anchored in a calm bay and I took one of the skiffs out so I could get some exercise by rowing to back to the ship. The ships engineer, Ed Magalhaes, saw me take off and a bit later looked out to see me rowing. He assumed an engine failure and put another skiff over to race out to assist me. When he arrived, he asked what was wrong with the engine and I said nothing, I just wanted to row. He told me, in the future to warn him when I was going to use the "two-cylinder arm-strong (row)."

I believe it was 1979, we were anchored in Wide Bay on the Alaska Peninsula. The day dawned beautifully, dead calm, not a cloud in the sky and were we excited about the work we'd get done that day. Bob Detterman, the project chief, designated teams of 2 to do day long traverses on land and I was assigned to the helicopter once everyone was placed out. I was to collect the radio repeater off a nearby mountain because we were to move the ship that night. I was also to use the helicopter to fill in spots we'd missed or could not cover on a traverse. As the crew was being placed out, I kept an eye on the weather and when it was time to get the repeater, the mountain top the repeater was on was shrouded in a cloud. We flew over and the pilot hovered his way up the slope in the cloud until he said, you'll have to climb from here. I got out, climbed up, got the repeater and returned to the helicopter. We hovered back down the mountain, only to discover the clouds had dropped 500 feet and the wind had come up. We flew back to the Miller to drop off the repeater. The pilot and I discussed the situation and we decided, we'd better get everyone back in, so he left me on the Miller and flew out to pick up the crew. The weather continued to deteriorate and landing on the Miller's tiny flight deck became more challenging. By the time of the last load in, the pilot radioed that he wanted everyone available on the flight deck to sit on the skids until he got the helicopter tied down. By that point, the winds were blowing 55 knots and it wasn't even 10 AM yet!

Some years later, 1980 or 1981, while at work on the Peninsula, the Capitan got a weather forecast of a major storm. He said, we have to run for shelter and pulled the ship into a sheltered bay, Port Wrangell. The storm hit and even in the sheltered bay the winds were so strong that the seas were flat because any wave would be blown into spray; we also got reports of 40 foot seas outside the bay. At one point the anchor dragged and the ship's crew had to reset it. After that, it was determined that all of us had to take 2 hour shifts on anchor watch. One instruction we had was that if the helicopter started to blow off, "punch it loose" and let to go because if it went over the side while still attached, it would capsize the ship. I was shocked that we'd let a quarter million dollar helicopter go, but the alternative didn't sound like an option! During my and Nora's (my assistant at the time) 2 hour shift that night, the winds hit 110 knots in the sheltered bay.

We continued to use the ship along the Alaska Peninsula until 1984, skipping 1982 though. In 1985, Nora was working off the ship near Ketchikan Alaska in its final USGS field season. I was working out on the Alaska Peninsula still, but I got a call asking if I'd like to be onboard for the final cruise to Seattle. It was a great trip and I was really sad to see the ship released from the USGS.

I joined the U.S. Geological Survey in 1975 and my early years in the organization were strongly focused around using the ship as a mobile field camp. Those were exciting years, in important part because of the

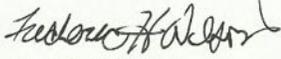
Robert Gray
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Contra Costa, CA
County and State

Sacajawea's National Register Nomination Support Letter

opportunities the ship provided. The 20 years or so when the USGS had the Don J. Miller were epic in terms of the scientific accomplishments of the group, in no small part because of the ship. This is truly a historic vessel

Sincerely,



Frederic H. Wilson

Robert Gray
Name of Property

Contra Costa, CA
County and State

Figure 16a-1 -Rick Wilson USGS Letter of Support Follow Up Response

2/10/2021

Gmail - Sacajawea letter



Stacy Shull <cleanairgrants@gmail.com>

Sacajawea letter

Frederic Wilson <ricalaska01@gmail.com>
To: Brian Hofstetter <hofstetter.brian@gmail.com>
Cc: Stacy Shull-Calles <cleanairgrants@gmail.com>

Sat, Feb 6, 2021 at 12:24 AM

Hi Brian and Stacy,

A little more about my work using the Don J (Sacajawea). Our effort was to do a mineral resource assessment along the Alaska Peninsula. This was a federally mandated effort and given the low level of knowledge we had of the region, we began a 15 year effort to map the geology, examine potential mineral occurrences, trying to understand the glacial history of the region, during the time of our efforts, responding to volcanic eruptions.

The work began in 1976 and we began our work with the ship in 1977, and used it until 1984 (skipping 1982). We would typically spend a month on the ship, sharing its time during the summer with other field party's elsewhere in southern Alaska. As I mentioned in my letter, we used the ship as a floating field camp, typically having a field party of 4 to 8 scientists, a helicopter pilot and mechanic, and the ship's crew of 4. Amidships there was a rudimentary laboratory with rock-saws and other equipment. Weather-permitting (always an issue on the Alaska Peninsula) we would fly to various areas on land for the day's work. As the flight deck was quite small, landing the helicopter was always a challenge for the pilots, so we only flew with highly experienced pilots.

During our work on the Alaska Peninsula Mount Veniaminof erupted in 1983 or 84 (my memory fails a bit) and we also discovered 4 previously unknown and extinct volcanoes.

On quiet evenings, we'd sit out on the fantail, some jigging for halibut, most just relaxing after dinner and office work. The ship's crew were greatly appreciated and prone to pranks if the scientists got too big headed. Of course, on the ship, you'd get below decks or fore and aft, I'd kid the crew talking about going down to the basement or up front, which would always get a rise out of them.

Though we were working very hard, life on the ship was something to look forward to every summer. Giving up the ship in 1985 was traumatic for those of us that regularly used it. I feel very fortunate to have experienced those field seasons.

I have some additional photographs of the ship, but they are slides and given our pandemic restrictions about getting into the office, I can't get them scanned right now. Maybe later.

Hope this helps.

Ric

(606)900-0011 (b)(6)

Robert Gray
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Figure 16b -Marti Miller, Daughter of Don J. Miller -USGS Letter of Support

Marti L. Miller
7137 Clemens Circle
Eagle River, AK 99577

January 10, 2021

Department of Parks and Recreation
State Historic Preservation Officer
Office of Historic Preservation
Julianne Polanco
1725 23rd Street, Suite 100
Sacramento, CA 95816-7100

Re: Nomination for the Historic Vessel, Sacajawea—Letter of Support

Dear Ms. Polanco,

I whole heartedly support the Nomination of the vessel “Sacajawea” to the National Register of Historic Places, administered by the National Park Service, U.S. Department of the Interior. I know the Sacajawea from its former life as the Research Vessel Don J. Miller II, then owned and operated by the U.S. Geological Survey (USGS). As a USGS research geologist, I had the pleasure of spending three field seasons (1980-1982) aboard her in Prince William Sound, Alaska. But I have another connection with the R/V Don J. Miller II. The vessel was named after my father, a USGS geologist, who died in 1961 while doing fieldwork in Alaska. I was 6 years old when he and his field assistant drowned in a melt-water engorged river. I was a daddy’s girl and I was devastated, but I had no idea back then that I would ultimately follow in my father’s footsteps to become a geologist and work for the USGS in Alaska. The USGS honored my father’s memory and his many contributions to geologic research in Alaska (e.g., Giant Waves in Lituya Bay, 1960) by naming their research vessel after him. There were two vessels that bore his name—the original vessel Don J. Miller was replaced in the early 1970s by the Robert Gray, which the USGS renamed the R/V Don J. Miller II.

During the summer months of 1980, 1981, and 1982 the USGS performed geologic mapping and mineral resource assessment studies of the Chugach National Forest, which surrounds Prince William Sound. Steve Nelson was the project chief and I was one of several geologists working on the project. The R/V Don J. Miller II was a perfect platform for performing geologic field research. It was a live-aboard vessel and we could easily move “camp” as the field season progressed. In addition to the sleeping cabins and fine galley, we had an office area where at the end of the day we could compile our map work and sort through the day’s samples. The field work was largely helicopter supported and the R/V Don J. Miller II had that covered as well with a helicopter landing pad and a good supply of Jet A for refueling. Shoreline field work was conducted using the ready supply of skiffs fitted with outboard motors. Not only was the vessel an efficient platform for our scientific investigations, she was beautiful as well. I especially remember the bountiful and well-maintained wood—from the galley to the cabins to the office. The vessel’s crew proudly served aboard the Don J. Miller II keeping her in tip-top condition, supporting our scientific mission, and uniting the scientific staff and ship’s crew.

Robert Gray
Name of Property

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County and State

The R/V Don J. Miller II disappeared from my radar when she left the USGS in the mid-1980s. I did not know what had happened to her. Then in mid-December I learned that not only was the vessel still around, but that she had been restored to her previous grandeur and further was being nominated as a Historic Vessel. I was elated! Learning about this new chapter in the life of the Don J. Miller II has led to a reconnection of those of us who served aboard her when she was a USGS research vessel. We have been recalling and sharing our treasured memories of our time aboard and appreciating the wonderful service she performed in the name of science. I also appreciate that this is an additional remembrance of my father and his dedication to studying Alaskan geology.

**Marti L.
Miller**

Digitally signed by
Marti L. Miller
Date: 2021.01.10
15:10:20 -09'00'

Marti L. Miller
(907) 242-1007; martimiller@hotmail.com

Robert Gray
Name of Property

Contra Costa, CA
County and State

Figure 16c – Steve Nelson, USGS Letter of Support

Sacajawea's National Register Nomination Support Letter

Steven W. Nelson

27 Dec. 2020

Department of Parks and Recreation
State Historic Preservation Officer
Office of Historic Preservation
Julianne Polanco
1725 23rd Street, Suite 100
Sacramento, CA 95816-7100

Re: Nomination for the Historic Vessel, Sacajawea – Letter of Support

Dear Julianne Polanco,

On behalf of *Steven Nelson* I would like to express my support for the Nomination of the vessel "Sacajawea" to the National Register of Historic Places, administered by the National Park Service, U. S. Department of the Interior. Authorized under the National Historic Preservation Act of 1966, the National Register is part of a national program to coordinate and support public and private efforts to identify, evaluate, and protect historic and archeological resources. The Sacajawea, formerly operated under two vessel names and a US Navy designation: the Robert Gray, the Don J. Miller II and LT666. Originally named after Robert Gray, the first American to circumnavigate the world (1787-1790), the survey ship was approved for construction in 1927, with President Calvin Coolidge's office approving the vessel's white dress paint scheme. Launched by the War Department in 1936, the Robert Gray's mission was to enhance hydrographic charts during World War II and the Cold War. In the 1960's the ship was acquired by the United States Geological Survey Branch of Alaskan Geology to support geologic mapping and mineral resource assessment studied in Alaska. Renamed the RV Don J. Miller II in honor of a highly respected USGS geologist who has perished during fieldwork, the ship was extensively used in southern Alaska and at one point sailed into the Bering Sea to support research projects there. The USGS also deployed the vessel during large natural disasters, such as to provide seismic survey work after the Loma Prieta earthquake in 1989.

I am a retired research geologist from the USGS, Alaskan Branch. I was a project geologist on the Don J. Miller during the 1973 and 1974 field seasons in SE Alaska. I also served as the chief scientist, on board, during geologic and mineral evaluations in Prince William Sound, Alaska from 1980-1982. In 1982 I was part of the vessel's crew to deliver the vessel to its home port in Seattle, WA from Wrangle, Alaska.

The use of the vessel for geologic studies in both SE Alaska and Prince William Sound was critical for the efficient operation of the projects. There was a heliport on the aft super structure, six 16-foot skiffs, and office and lab space on board for the use of the scientific team.

I am very excited that there is a desire to nominate the vessel (currently) the Sacajawea to the National Register of Historic Places. The vessel has had a long history in support of various US Government programs culminating in its support to the US Geological Survey and definitely warrants the nomination to preserve its important contributions to the US Government.

Robert Gray
Name of Property

Contra Costa, CA
County and State

Sacajawea's National Register Nomination Support Letter

Sincerely,
Steven W. Nelson

USGS retired

Robert Gray
Name of Property

Contra Costa, CA
County and State

Figure 16d – EBDG Letter of Support



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www.ebdg.com

December 22, 2020

To: Ms. Julianne Polanco
CA Department of Parks and Recreation
State Historic Preservation Officer
Office of Historic Preservation
1725 23rd Street, Suite 100
Sacramento, CA 95816-7100

Subject: Nomination for the Historic Vessel, Sacajawea – Letter of Support

Dear Ms. Polanco,

On behalf of Elliott Bay Design Group (EBDG), I would like to express our sincere support for the nomination of the vessel “Sacajawea” to the National Register of Historic Places, administered by the National Park Service, U. S. Department of the Interior. Authorized under the National Historic Preservation Act of 1966, the National Register is part of a national program to coordinate and support public and private efforts to identify, evaluate, and protect historic and archeological resources.

The Sacajawea formerly operated under two vessel names and a US Navy designation: the Robert Gray, the Don J. Miller II and LT666. Originally named after Robert Gray, the first American to circumnavigate the world (1787-1790), the survey ship was approved for construction in 1927, with President Calvin Coolidge’s office approving the vessel’s white dress paint scheme. Launched by the War Department in 1936, the Robert Gray’s mission was to enhance hydrographic charts during World War II and the Cold War. In the 1960’s the ship was acquired by the United States Geological Survey Branch of Alaskan Geology to support geologic mapping and mineral resource assessment studied in Alaska. Renamed the RV Don J. Miller II in honor of a highly respected USGS geologist who has perished during fieldwork, the ship was extensively used in southern Alaska and at one point sailed into the Bering Sea to support research projects there. The USGS also deployed the vessel during large natural disasters, such as to provide seismic survey work after the Loma Prieta earthquake in 1989.

EBDG’s connection to this vessel is deep. The vessel’s construction design was detailed by W.C. Nickum for the Lake Washington Shipyard, Houghton, WA. He was the father of George Nickum who became one of the two partners of Nickum & Spaulding, which was the forebear of EBDG when it became an employee-owned company. And further, W.C. Nickum’s grandson, Will Nickum, is now semi-retired but still works with the company.

In the future, EBDG looks forward to the opportunity to continue to support Fathom Ventures with their planned refurbishment of the vessel. To the greatest extent possible, the vintage feel and experience will be maintained and enhanced, with deviations only where required to meet regulatory compliance.

Robert Gray
Name of Property

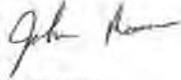
Contra Costa, CA
County and State

ELLIOTT BAY DESIGN GROUP

December 22, 2020

Again, EBDG is strongly supportive of designation of the Sacajawea on the National Register of Historic Places. The maritime industry in general has been a cornerstone of the growth of our nation, and this vessel in particular has played a key role in that growth on the West Coast. Operating vessels of this era are rapidly disappearing, and this designation would be an important step in saving that critical history.

Sincerely,



John Reeves
Director of Business Development

cc: Fathom Ventures, LLC

Robert Gray
Name of Property

Contra Costa, CA
County and State

Figure 16e -Charlie Walther Engineering S Letter of Support

WALTHER ENGINEERING SERVICES

41 BAY WAY
December 17, 2020

SAN RAFAEL, CA 94901

415 454 7045

Department of Parks and Recreation
State Historic Preservation Officer
Office of Historic Preservation
Julianne Polanco
1725 23rd Street, Suite 100
Sacramento, CA 95816-7100

Re: Nomination for the Historic Vessel, "SACAJAWEA" – Letter of Support

Dear Julianne Polanco,

On behalf of the owners of the vessel SACAJAWEA, I would like to express my support for the Nomination of said vessel to the National Register of Historic Places, administered by the National Park Service, U. S. Department of the Interior. Authorized under the National Historic Preservation Act of 1966, the National Register is part of a national program to coordinate and support public and private efforts to identify, evaluate, and protect historic and archeological resources. The SACAJAWEA, formerly operated under two vessel names and a US Navy designation: the ROBERT GRAY, the DON J. MILLER II and LT666. Originally named after Robert Gray, the first American to circumnavigate the world (1787-1790), the survey ship was approved for construction in 1927, with President Calvin Coolidge's office approving the vessel's white dress paint scheme. Launched by the War Department in 1936, the ROBERT GRAY's mission was to enhance hydrographic charts during World War II and the Cold War. Post war, the ship began to engage in some of America's first known oil exploration within Alaskan waters under direction of the United States Geological Survey (USGS). Oil in Alaska – and securing our large-scale strategic reserves, was largely discovered by Don J. Miller working aboard the ROBERT GRAY. He died in operations while assigned on the ship, and a decade later the vessel was renamed by the USGS in his honor. In addition to oil exploration, the USGS also deployed the vessel during large natural disasters, such as to provide seismic survey work after the Loma Prieta earthquake in 1989.

I have been involved professionally working on this type of vessel since 1965 having served as chief engineer on numerous similar boats. I also managed the design and repower of a number of them and the maintenance of a fleet of about 12 of this type for a number of years. I was the last chief engineer of a tug, the MARY D HUME, built in 1883 on the return trip to her berth place in Oregon in 1982. I am familiar and have worked on other historic vessels, including the tug HIAWATHA.

I am planning to assist in the continued renovation of the SACAJAWEA. She has the most complete set of vessel plans and drawings I have seen. They are in excellent condition and are very well done originals on velum paper.

This vessel is unique on the waterfront in that she is of riveted construction with very little deterioration. She has fine lines and is an excellent example of design and construction practices used in a bygone era.

Sincerely,



Charlie Walther
President
Walther Engineering Services

Robert Gray
Name of Property

Contra Costa, CA
County and State

Figure 16f - Captain Tom Bergmann Letter of Support

Sacajawea's National Register Nomination Support Letter

December 10, 2020

Department of Parks and Recreation
State Historic Preservation Officer
Office of Historic Preservation
Julianne Polanco
1725 23rd Street, Suite 100
Sacramento, CA 95816-7100

Re: Nomination for the Historic Vessel, Sacajawea - Letter of Support

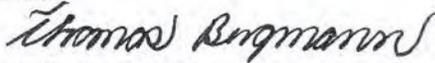
Dear Julianne Polanco,

On behalf of Fathom Ventures, I would like to express my support for the Nomination of the vessel "Sacajawea" to the National Register of Historic Places, administered by the National Park Service, U. S. Department of the Interior. Authorized under the National Historic Preservation Act of 1966, the National Register is part of a national program to coordinate and support public and private efforts to identify, evaluate, and protect historic and archeological resources. The Sacajawea, formerly operated under two-vessel names and a US Navy designation: the Robert Gray, the Don J. Miller II, and LT666. Originally named after Robert Gray, the first American to circumnavigate the world (1787-1790), the survey ship was approved for construction in 1927, with President Calvin Coolidge's office approving the vessel's white dress paint scheme. Launched by the War Department in 1936, the Robert Gray's mission was to enhance hydrographic charts during World War II and the Cold War. Post war, the ship began to engage in some of America's first known oil exploration within Alaskan waters under direction of the United States Geological Survey (USGS). Oil in Alaska - and securing our large-scale strategic reserves, was largely discovered by Don J. Miller working aboard the Robert Gray. He died in operations while assigned on the ship, and a decade later the vessel was renamed by the USGS in his honor. In addition to oil exploration, the USGS also deployed the vessel during large natural disasters, such as to provide seismic survey work after the Loma Prieta earthquake in 1989.

Over the past three years, I have provided USCG licensed captain's services aboard the Sacajawea. I have had the privilege of guiding the Sacajawea on voyages up and down the California Coast. I have personally witnessed the care in vessel maintenance and the operational improvements made by the owners. Operating a vintage vessel like the Sacajawea has been the highlight of my career. It provided an opportunity to learn vessel operating systems dating back to 1936 and revisit the maritime history of vessels produced during that era. I look forward to sharing her maritime history with others and honoring the men and women who served on this vessel in the past.

I highly recommend the Sacajawea secure Historic Vessel status in the National Registry

Sincerely,



Captain Thomas Bergmann
Argo Marine Services
tbergmannsprint@earthlink.net

Robert Gray
Name of Property

Contra Costa, CA
County and State

Figure 16g – Captain Bradley Angle Letter of Support

Sacajawea’s National Register Nomination Support Letter

Capt. Bradley T. Angle, MBA

12.27.2020

Department of Parks and Recreation
State Historic Preservation Officer
Office of Historic Preservation
Julianne Polanco
1725 23rd Street, Suite 100
Sacramento, CA 95816-7100

Re: Nomination for the Historic Vessel, Sacajawea – Letter of Support

Dear Julianne Polanco,

I would like to express my support for the Nomination of the vessel “Sacajawea” to the National Register of Historic Places, administered by the National Park Service, U. S. Department of the Interior. Authorized under the National Historic Preservation Act of 1966, the National Register is part of a national program to coordinate and support public and private efforts to identify, evaluate, and protect historic and archeological resources. The Sacajawea, formerly operated under two vessel names and a US Navy designation: the Robert Gray, the Don J. Miller II and LT666. Originally named after Robert Gray, the first American to circumnavigate the world (1787-1790), the survey ship was approved for construction in 1927, with President Calvin Coolidge’s office approving the vessel’s white dress paint scheme. Launched by the War Department in 1936, the Robert Gray’s mission was to enhance hydrographic charts during World War II and the Cold War. In the 1960’s the ship was acquired by the United States Geological Survey Branch of Alaskan Geology to support geologic mapping and mineral resource assessment studied in Alaska. Renamed the RV Don J. Miller II in honor of a highly respected USGS geologist who has perished during fieldwork, the ship was extensively used in southern Alaska and at one point sailed into the Bering Sea to support research projects there. The USGS also deployed the vessel during large natural disasters, such as to provide seismic survey work after the Loma Prieta earthquake in 1989.

I’ve been involved with Sacajawea for a good portion of 2020. As a captain and operational consultant, my tasks have been to keep the crew up to speed with operations; ensure the vessel is operating under appropriate Coast Guard regulations as well as other federal, state and local regulations; and to operate the vessel whenever she is away from the pier. As an entrepreneur here in the San Francisco Maritime, Sacajawea is an essential operation here on the Bay to be involved with. The great condition of the vessel plus her historic properties makes her presence unavoidable. As a marine history buff, one project I am working on is ensuring the original signage around the vessel is preserved – this includes stateroom designators and emergency response station bills. I believe the crew of Sacajawea will function best with original labels – “Chief Engineer,” “Boatswain mate,” etc.

Preserving our maritime heritage is an essential element in establishing our national culture. As a vessel that contributed to multiple successful missions during a time of great political and social turbulence, we will only benefit by preserving her and opening her history to the communities that have benefited from her successes. I am proud to work aboard and help promote her rich history.

Robert Gray
Name of Property

Contra Costa, CA
County and State

Sacajawea's National Register Nomination Support Letter

Sincerely,

Capt. Bradley T. Angle, MBA



Bradley Angle

Robert Gray
Name of Property

Contra Costa, CA
County and State

Figure 16h -Metal Shark Letter of Support



Department of Parks and Recreation
State Historic Preservation Officer
Office of Historic Preservation
Julianne Polanco
1725 23rd Street, Suite 100
Sacramento, CA 95816-7100

December 12, 2020

Re: Nomination for the Historic Vessel, *Sacajawea* – Letter of Support

Dear Julianne Polanco,

On behalf of Metal Shark Boats, I would like to express my support for the Nomination of the vessel “*Sacajawea*” to the National Register of Historic Places, administered by the National Park Service, U. S. Department of the Interior. Authorized under the National Historic Preservation Act of 1966, the National Register is part of a national program to coordinate and support public and private efforts to identify, evaluate, and protect historic and archeological resources. The *Sacajawea* formerly operated under two vessel names and a US Navy designation: the Robert Gray, the Don J. Miller II and LT666. Originally named after Robert Gray, the first American to circumnavigate the world (1787-1790), the survey ship was approved for construction in 1927, with President Calvin Coolidge’s office approving the vessel’s white dress paint scheme. Launched by the War Department in 1936, the Robert Gray’s mission was to enhance hydrographic charts during World War II and the Cold War. In the 1960’s the ship was acquired by the United States Geological Survey Branch of Alaskan Geology to support geologic mapping and mineral resource assessment studies in Alaska. Renamed the RV Don J. Miller II in honor of a highly respected USGS geologist who has perished during fieldwork, the ship was extensively used in southern Alaska and at one point sailed into the Bering Sea to support research projects there. The USGS also deployed the vessel during large natural disasters, such as to provide seismic survey work after the Loma Prieta earthquake in 1989.

I personally spent an entire day on board the *Sacajawea* this past October 20th doing a ship check on behalf of our shipyard for the complete renovation as well as some modern upgrades that are planned. There is quite simply no other US Government built vessel with her unique history that is still afloat and in such great condition. The passion that the owners have for this boat is overwhelming, the feeling one gets while onboard during the tour was a day I will truly never forget and must be preserved for others to experience.

Metal Shark is the largest builder of US Navy and USCG vessels up to 85’ in length, and my four-decade career in the marine industry has allowed me to be onboard hundreds of different vessels. There is nothing like the *Sacajawea* and I urge you to accept her to the National Register of Historic Places.

Carl F. Wegener
Vice President
www.metalsharkboats.com

6814 E. Admiral Doyle Drive • Jeanerette • LA • 70544 160 Borough Lane • Franklin • LA • 70538
Phone: 337.364.0777 • Fax: 337.364.0337

Robert Gray
Name of Property

Contra Costa, CA
County and State

Figure 16i: Zannah Zoe Letter of Support



DEC 21, 2020

Department of Parks and Recreation
State Historic Preservation Officer
Office of Historic Preservation
Julianne Polanco
1725 23rd Street, Suite 100
Sacramento, CA 95816-7100

Re: Nomination for the Historic Vessel, Sacajawea – Letter of Support

Dear Julianne Polanco,

My name is Zannah Noe, I would like to express my support for the Nomination of the vessel “Sacajawea” to the National Register of Historic Places, administered by the National Park Service, U. S. Department of the Interior. Authorized under the National Historic Preservation Act of 1966, the National Register is part of a national program to coordinate and support public and private efforts to identify, evaluate, and protect historic and archeological resources. The Sacajawea, formerly operated under two vessel names and a US Navy designation: the Robert Gray, the Don J. Miller II and LT666. Originally named after Robert Gray, the first American to circumnavigate the world (1787-1790), the survey ship was approved for construction in 1927, with President Calvin Coolidge’s office approving the vessel’s white dress paint scheme. Launched by the War Department in 1936, the Robert Gray’s mission was to enhance hydrographic charts during World War II and the Cold War. In the 1960’s the ship was acquired by the United States Geological Survey Branch of Alaskan Geology to support geologic mapping and mineral resource assessment studied in Alaska. Renamed the RV Don J. Miller II in honor of a highly respected USGS geologist who has perished during fieldwork, the ship was extensively used in southern Alaska and at one point sailed into the Bering Sea to support research projects there. The USGS also deployed the vessel during large natural disasters, such as to provide seismic survey work after the Loma Prieta earthquake in 1989.

In 1998, I was hired as a chef for the reenactment cruise of the 100th year anniversary of the Klondike Gold Rush with a charter of 12 guests and 8 crewmembers and 5 other boats. Left Seattle with a flotilla of workboats up to Skagway and back. Strayed aboard till 2004. It was one of the highlights of my life; it fed my love of food, hospitality, events, design, and adventure travel. We redid a number of the rooms but to the same

@zannahnoe @AmericanBones
ZANNAHNOE.COM | @GMAIL.COM

Robert Gray
Name of Property

Contra Costa, CA
County and State



character and time from the 1930's. We did maritime history tours of the Bay Area and hosted a cooking/dinner party with visiting chefs. I was able to get my merchant Marine AB license work on mega yachts 2004 - 2006. This experience led me to work as a private chef to the Madeline Hass Russell's family and other private chef work till 2010. The Robert Gray was such large part of my life and I know of many others that had their careers started on the ship. As far as my continued involvement with the Gray, it would be limited as I'm on the east coast now, but would open to work in the future if there were another opportunities. I would be very excited to see the Gray be classified as an historic vessel. It would allow so many more people to be exposed to workboats and the historic work they did in charting the oceans and exploring the world we live in.

Sincerely,

Zannah Noe,
Executive Chef, Charter Director of MV Robert Gray 1998-2004

@zannahnoe @AmericanBones
ZANNAHNOE.COM | @GMAIL.COM

Robert Gray
Name of Property

Contra Costa, CA
County and State

Figure 16j: ASSA Letter of Support



American Shipbuilding Suppliers Association
300 New Jersey Avenue NW - Suite 900, Washington, DC 20001
Direct line to the CEO: 228- / Office: 202-969-0083
georgewilliams.assa@gmail.com / www.shipbuildingsuppliers.com

December 18, 2020

Department of Parks and Recreation
State Historic Preservation Officer
Office of Historic Preservation
Ms. Julianne Polanco
1725 23rd Street, Suite 100
Sacramento, CA 95816-7100

Re: Nomination for the Historic Vessel, Sacajawea – Letter of Support

Dear Ms. Polanco:

On behalf of the American Shipbuilding Suppliers Association (ASSA), I would like to express our support for the Nomination of the vessel "Sacajawea" to the National Register of Historic Places, administered by the National Park Service, U. S. Department of the Interior. Authorized under the National Historic Preservation Act of 1966, the National Register is part of a national program to coordinate and support public and private efforts to identify, evaluate, and protect historic and archeological resources.

The Sacajawea, formerly operated under two vessel names and a US Navy designation: the Robert Gray, the Don J. Miller II and LT666. Originally named after Robert Gray, the first American to circumnavigate the world (1787-1790), the survey ship was approved for construction in 1927, with President Calvin Coolidge's office approving the vessel's white dress paint scheme. Launched by the War Department in 1936, the Robert Gray's mission was to enhance hydrographic charts during World War II and the Cold War. In the 1960's the ship was acquired by the United States Geological Survey Branch of Alaskan Geology to support geologic mapping and mineral resource assessment studied in Alaska. Renamed the RV Don J. Miller II in honor of a highly respected USGS geologist who has perished during fieldwork, the ship was extensively used in southern Alaska and at one point sailed into the Bering Sea to support research projects there. The USGS also deployed the vessel during large natural disasters, such as to provide seismic survey work after the Loma Prieta earthquake in 1989.

This vessel is significant to our members because ASSA advocates for the United States shipbuilding supplier community. We address industry-wide issues directly to Congress, the Navy and the U.S. Coast Guard. Our end objective is to ensure that our domestic shipbuilding companies remain robust, strategic assets to the United States defense programs.

Robert Gray
Name of Property

Contra Costa, CA
County and State

Page Two
December 18, 2020
Nomination Letter: Sacajawea

The manufacturing companies that make up this shipbuilding supplier base are very specialized in responding to the unique requirements of our warships; their facilities are capital-intensive; they require a highly skilled workforce; they are familiar with stringent Navy requirements for operations in demanding environments, e.g. cyber security, shock, vibration, EMI, acoustic, etc.; their highly engineered products generally do not lend themselves to commercial markets; they provide critical business to 3rd and 4th tier suppliers within the shipbuilding supplier base; and the loss of opportunity to U.S. suppliers would increase the cost on other Navy platforms. Most importantly, maintaining a robust domestic manufacturing capability allows for a surge capability by ensuring rapidly scalable capacity when called upon to support major military operations—a theme frequently emphasized by DoD and Navy leaders. These capabilities are a critical National asset and once lost, it is unlikely or extremely costly to replicate them.

Our members are in total support of this nomination of the vessel “Sacajawea” to the National Register of Historic Places. In short, it is a symbol of the very core of our mission.

Sincerely,

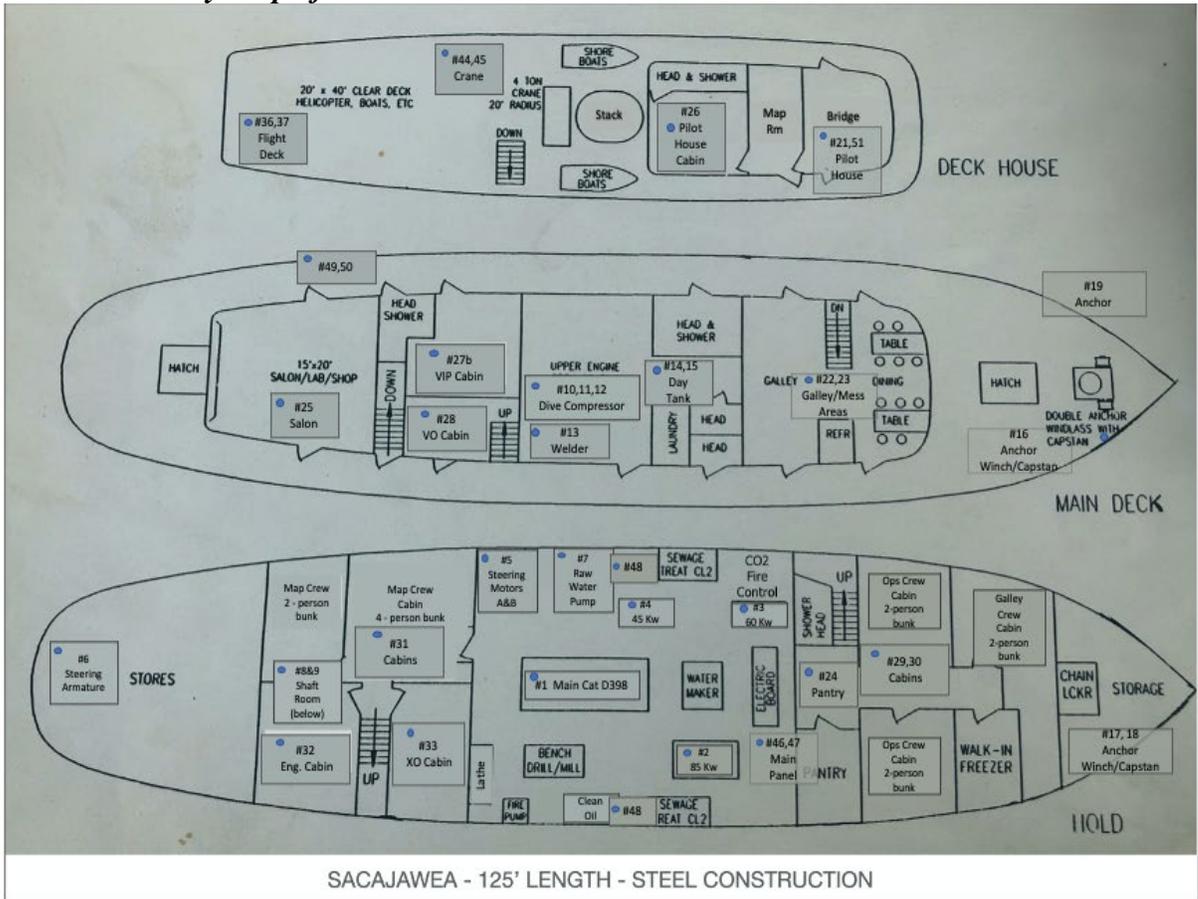


George E. Williams, CEO

Robert Gray
 Name of Property

Contra Costa, CA
 County and State

Figure 17: Sketch Key Map of Vessel



Robert Gray
Name of Property

Contra Costa, CA
County and State

Paperwork Reduction Act Statement: This information is being collected for nominations to the National Register of Historic Places to nominate properties for listing or determine eligibility for listing, to list properties, and to amend existing listings. Response to this request is required to obtain a benefit in accordance with the National Historic Preservation Act, as amended (16 U.S.C.460 et seq.). We may not conduct or sponsor and you are not required to respond to a collection of information unless it displays a currently valid OMB control number.

Estimated Burden Statement: Public reporting burden for each response using this form is estimated to be between the Tier 1 and Tier 4 levels with the estimate of the time for each tier as follows:

- Tier 1 – 60-100 hours
- Tier 2 – 120 hours
- Tier 3 – 230 hours
- Tier 4 – 280 hours

The above estimates include time for reviewing instructions, gathering and maintaining data, and preparing and transmitting nominations. Send comments regarding these estimates or any other aspect of the requirement(s) to the Service Information Collection Clearance Officer, National Park Service, 1201 Oakridge Drive Fort Collins, CO 80525.