ESSO FLEET NEWS

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THE UNIVERSITY OF TEXAS AT AUSTIN

ESSO HOUSTON — TANKER EXTRAORDINARY

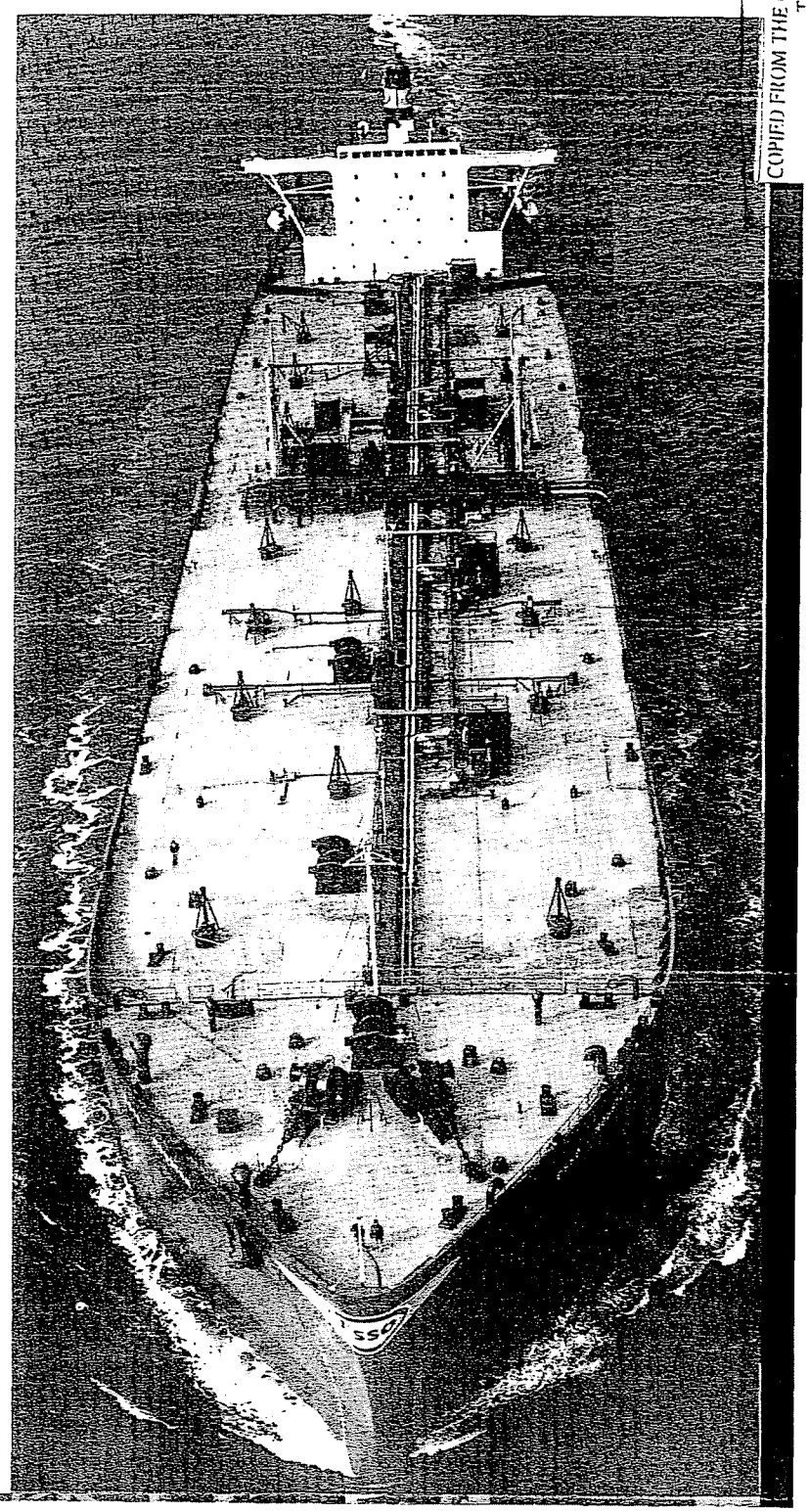
You can't get very far on an inspection of the *Esso Houston* without realizing that here is a new brand as well as a brand new tanker. In fact, you get the impression right at the start — on the gangway. It seems to be 100 ft. high when the ship is light. The gangway turns on a platform secured to the gunwale so it can be parallel or perpendicular to the dock and the walkway cleats make a secure footing at any angle.

Stepping on deck, you see about 2 acres of light gray deck dotted with pump houses; winches; tank gages; valves; tank tops with quick-acting, swing-away covers, and a maze of piping. 'Way up forward you see the fo'c'sle head with an anchor windlass for each anchor. Aft. the deckhouse and bridge wings tower above you like a skyscraper.

There is no doubt at all that this is a BIG ship and —it naturally follows — big things are expected of her. The biggest thing is that she was built to transport clean petroleum products from the U. S. Gulf to East Coast ports at a lower cost than any competitor on land or sea. With this as the primary objective, Marine Division personnel, architects and engineers of the Tanker Dept. of Esso International, Inc. and Newport News Shipbuilding and Dry Dock Co. developed plans and specifications for a tanker that was economical to build and economical to maintain and operate.

This was a tall order that involved many conflicts. For example, it added to the construction cost to have Rust-Ban 191 coating applied to the hull from light load line to rail, to the exterior decks, the superstructure, cargo tanks and piping. But it would have cost more to do the coating later and a lot less maintenance painting will be needed. Plain asbestos composition sheathing would have been adequate for living spaces. But pre-finished panels that never require painting are more attractive and easier to maintain.

Many, many decisions of this nature were made during the planning of the *Esso Houston*. Decisions



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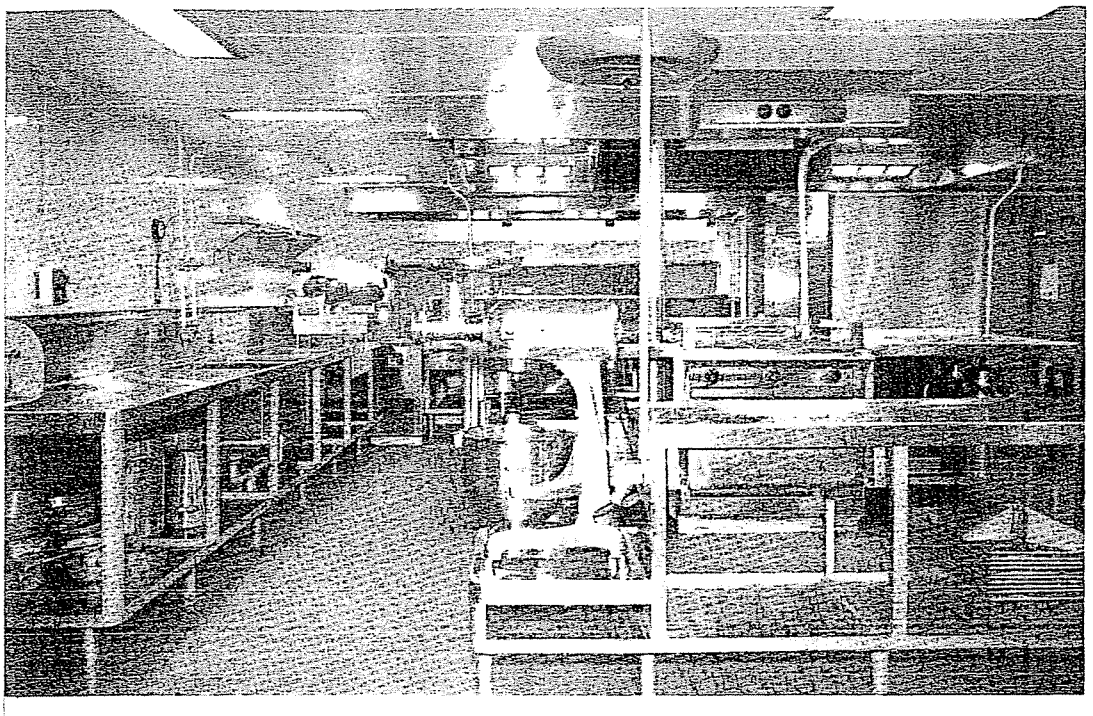
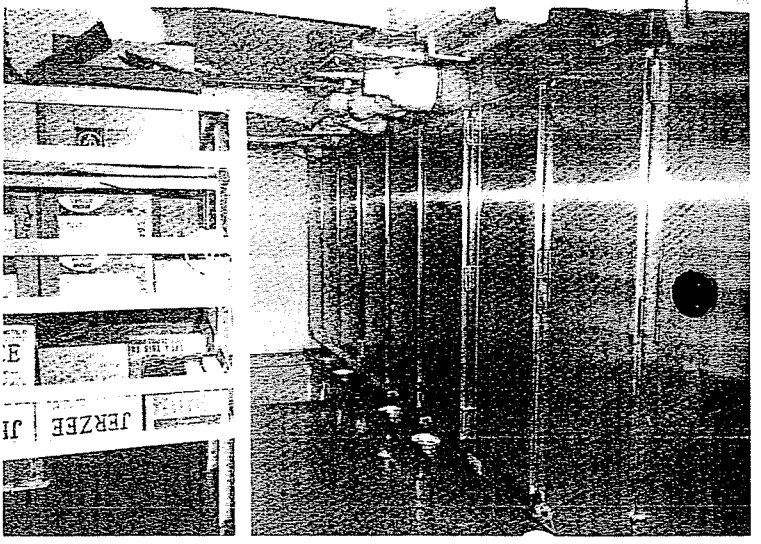


Left — The fluorescent lighted, ceiled, air conditioned galley is a-gleam with stainless steel equipment.

Below — Part of the Steward's Dept. storeroom. Three of the 6 refrigerators are at right, shelves for dry stores and canned goods at left.



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of another type were made, too; decisions resulting from questioning the need today for many traditional practices. From the *Gluckauf* until recently, tankers have had a midship house. The *Esso Houston* does not. Since the days of oil lamps, enginerooms have had skylights. The *Houston* has a bolted hatch cover and fluorescent lights. It was unthinkable for a vessel even half her size to have only one boiler (though there are thousands of motorships with only one main engine) yet the *Houston* has one boiler. She also departs from tradition by eliminating pumprooms and catwalks.

Now, to get to the positive side — what the *Esso Houston* does have — we'll break with tradition ourselves a bit and start with the Steward's Dept. The galley, messrooms, storeroom and scullery are models of convenience and efficiency. Stores come aboard through the stores hatch (see photo) to a landing on the upper deck, right alongside the Steward's storeroom. It is just a few steps from the landing to the 6 stainless steel, reach-in type refrigerators for milk, fresh and frozen foods, that line 2 sides of the storeroom. The center of the room and another side are fitted with shelves for canned goods and dry stores.

Adjacent to the storeroom is the galley with 2 ranges back to back, a broiler, French fryer and counters arranged in a square in about the center of the room. Work counters and electrical equipment surround the room. On the starboard side, which adjoins the crew's mess, is an electrically heated serving area, a griddle and infra-red "keep warm" lamps over the serving counter. Other galley equipment includes a meat grinder-food mixer with all attachments, bake oven, meat slicer, meat saw, vegetable peeler and ice maker. Everything is electric, everything is stainless steel.

Close to the serving counter and opening off the crew's mess is a scullery with king-size food waste disposer, dish washer, dish racks and work counters.

In addition to the efficient arrangement of galley and storeroom, less work for Steward's Dept.

ESSO FLEET NEWS is published for the seagoing employees of the Marine Division, Humble Oil & Refining Co.: Joseph Andreae, General Manager; Sydney Wire. Assistant General Manager.

W. E. Gardner, Editor.

Contributions and suggestions are invited and should be addressed to The Editor, ESSO FLEET NEWS, Humble Oil & Refining Co., P. O. Box 1512, Houston, Texas 77001.

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Principal Characteristics

Length overall	800′
Length between perpendiculars	763′
Beam, molded	116′
Depth, molded	54′6″
Draft on international summer freeb'd	40′ 3-13/16″
Deadweight tons at 40′ 3-13/16″ draft	67,879
Displacement tons at 40′ 3-13/16″ draft	81,783
Cargo tank cubic capacity (bbls.)	582,056
Cargo pumps (4 deep well, bph. ea.)	10,000
Solvent pumps (2 deep well, bph. ea.)	2,000
Main turbines' shaft horsepower	19,000
Propeller rpm. at 19,000 shp.	103.2
Designed sea speed (knots)	16.5
Propeller diameter	23′
Date keel laid	1/27/64
Date launched	9/26/64
Date delivered	12/11/64
Builder - Newport News Shipbuilding & Dry Dock Co.	

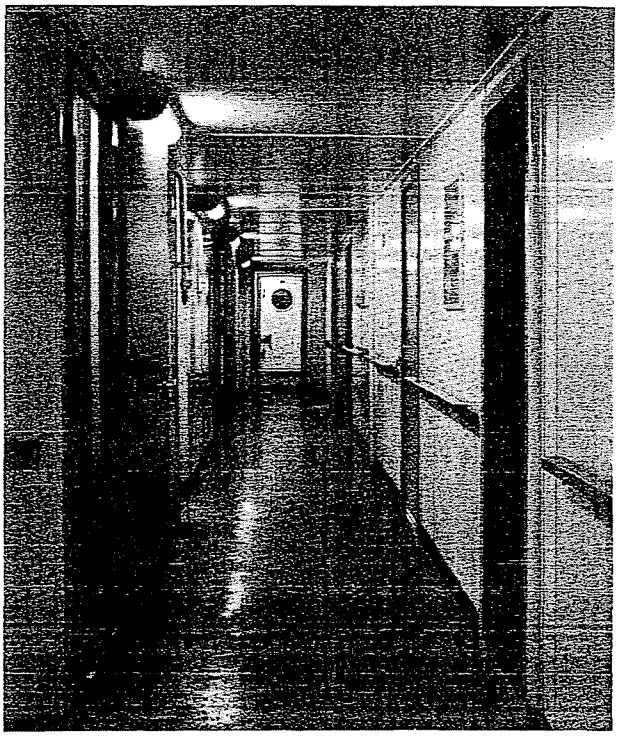
personnel is made possible through the use of more prepared foods such as frozen pastries, "brown and serve" bread and rolls, individual meat pies and portion-cut meats. Crew comments about the food varied from "excellent" to "very excellent."

The officers' and crew's messrooms are adjacent and furnished alike with pre-finished, simulated wood paneling and vinyl asbestos tile, although the officers' room is smaller and has one table, compared with 2 in the crew's mess.

Deckhouse and Quarters

There are 6 decks in the *Esso Houston's* house. Topmost is the navigating bridge, containing the wheelhouse, chart room and bridge wings. Below that and in order are: upper bridge deck — with Master's stateroom and day room, radio room, Radio Officer's room; bridge deck — Chief Engineer's stateroom and day room, rooms for Chief Mate and First Asst.; boat deck —quarters for Second and Third Mates and Second and Third Assts.; poop deck — Engineers' change room, officers' laundry, library, 2-berth hospital, Chief Steward's room, 2 trainee rooms, officers' lounge, auxiliary diesel generator room and emergency diesel generator room. The upper deck (the main deck of the ship) houses in addition to the galley, messrooms and storeroom, accommodations for all other unlicensed men, the crew's recreation room, baggage room, laundry, hobby room, dark room, and fire fighting and hydraulic power pack rooms.

Quarters for officers and unlicensed men are air



A typical passageway in the quarters. Floor is vinyl asbestos tile, bulkheads are pre-finished (require no painting) fireproof asbestos sheathing, ceiling covers piping and air ducts, handrails are varnished oak and watertight door at end is aluminum.



A portion of the crew's messroom showing glass front serving counter with vertical sliding door in background. Table has plastic top, arm chairs are upholstered aluminum. L. to r. in background are: refrigerator for night lunches, serving area, electric toasters, door to scullery, counter with self-leveling cup and saucer holders, elec. warmers for rolls and hot bread, automatic iced tea maker and (not shown) automatic coffee maker.

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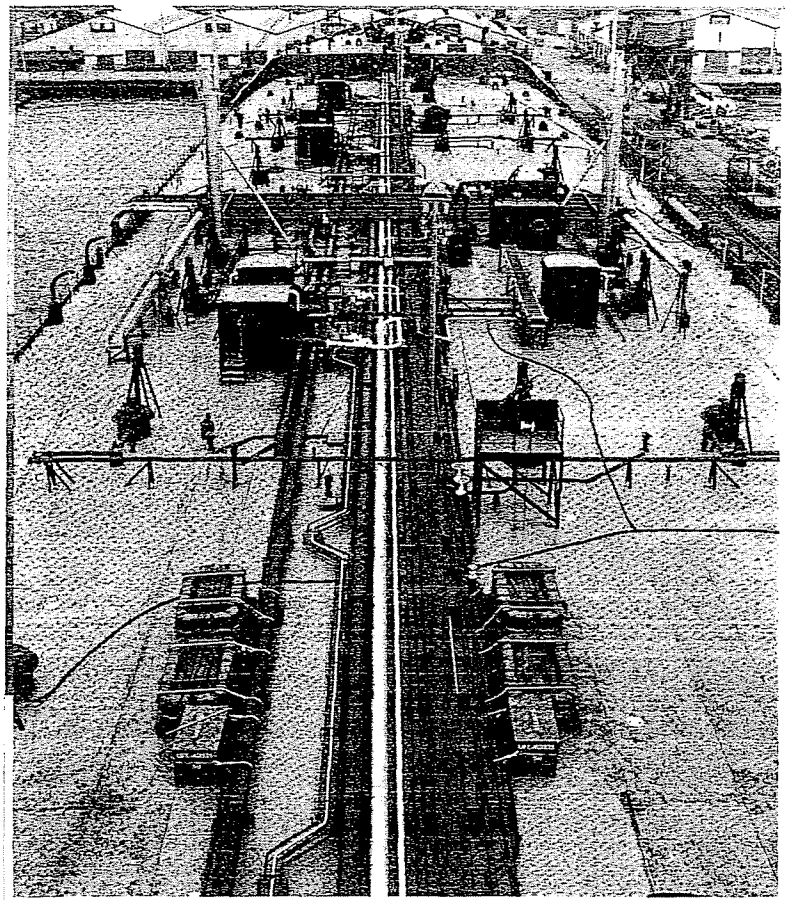


View forward from the wheelhouse. You can see 5 of the 6 pumphouses which contain turbines for deep well cargo pumps. Closest pumphouse on starboard side, and one opposite on port side, contain specialty pumps. Starboard house nearest crossovers is Pumpman's locker. Light colored pipes are steam lines. Fire fighting foam nozzles are atop the 2 forward pumphouses, the Pumpman's locker and a platform in foreground. You don't see many valve wheels: 26 cargo valves are hydraulically powered, operated by a hand lever.

conditioned and fitted with built-in metal bed with 4 drawers and locker beneath, reclining lounge chair, arm chair, combination desk and chest, wardrobe, wash basin with hot and cold water, radio shelf and antenna outlet. Officers' lounge and crew recreation room are comfortably furnished and have large screen television sets.

Cargo Handling

One of the principal areas in which the *Esso Houston* departs from tradition is in the arrangement of cargo tanks and the cargo handling system. There are 21 cargo tanks, ranging in size from the 5 enormous center tanks with capacities of over 56,000 bbls. each, to the four No. 4 forward wing tanks, each holding about 7,800 bbls. The No. 1, 3 and 5 wing tanks have 27,500, 31,200 and 29,000-bbl. capacities and the No. 2 wings and No. 4 wings aft hold about 15,000 bbls. each.

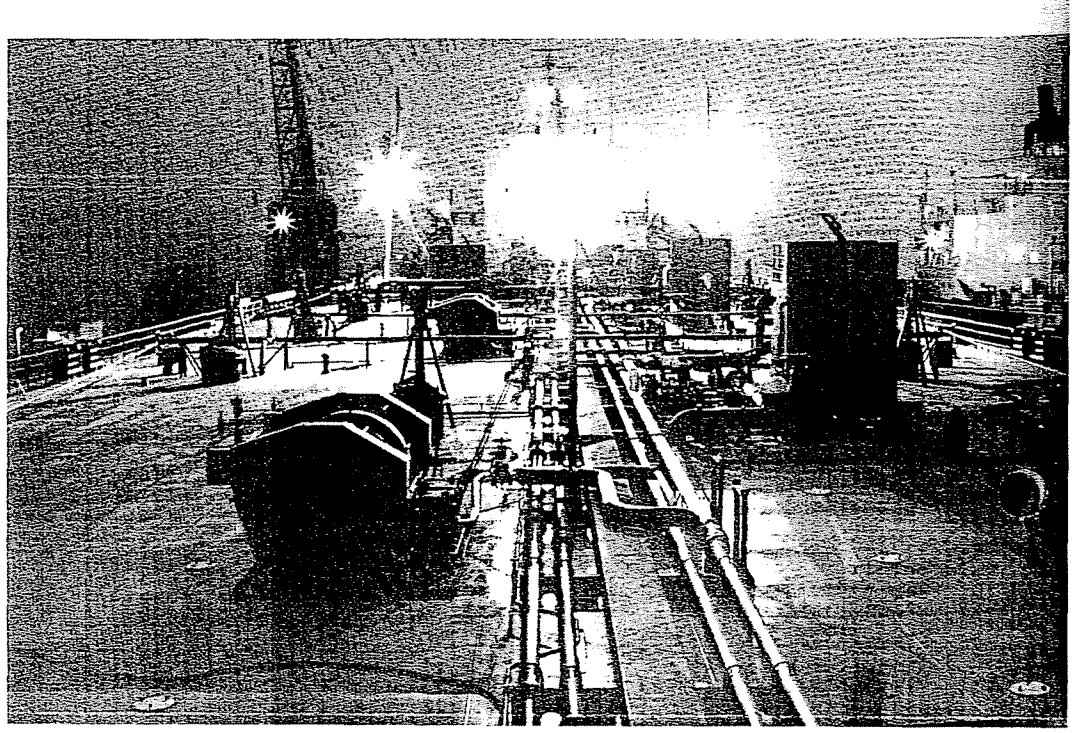
The bulk of the cargo is discharged by four 10,000 bph. deep well pumps mounted on the main deck, thus eliminating the customary pump rooms. Each main pump is driven through right angle gears by an 800-hp. horizontal steam turbine located in a house beside each pump. The turbines are designed to operate with steam at 300 psig. and 500° F. There is an air-driven stripping pump to drain the barrel of each main pump and a steam-driven reciprocating pump to drain the cargo lines.

A completely separate system is provided for specialty cargoes. The specialty pumps, 1 port and 1 starboard, are also of the deep well type, rated at 2,000 bph. each and driven by a directly connected, vertical steam turbine. Pump and turbine are enclosed in a small house. An air-driven pump to strip the barrels of each of these pumps is also provided.

Given adequate shore facilities, the *Esso Houston* will be able to discharge a full cargo in about 15 hours.

The 4 main cargo pumps also handle ballast,

Looking aft from the fo'c'sle. Brightest lights are 1,000 watt mercury vapor lamps (there are 9 aboard plus 4-400 watt floodlights). Steel plating down center covers wireway. Also visible are Butterworth plates with 3 cam-lock dogs, cargo tank vents and "P-V" valves near each tank top and supports for cargo lines that allow pipe to expand and contract. Expansion joints are fixed. Note new type radio antenna to right of wheelhouse.



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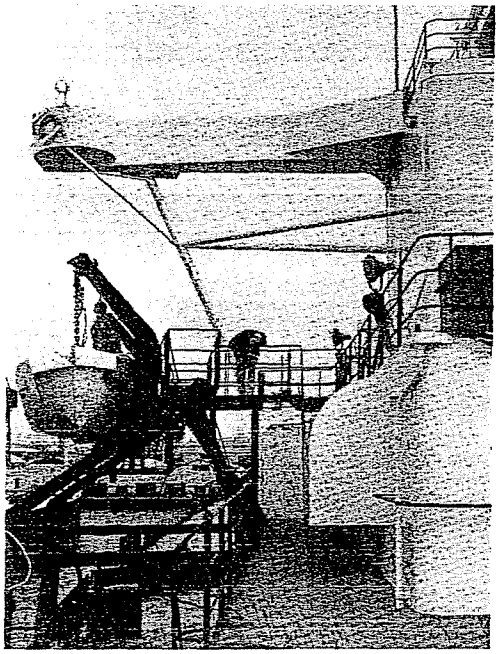
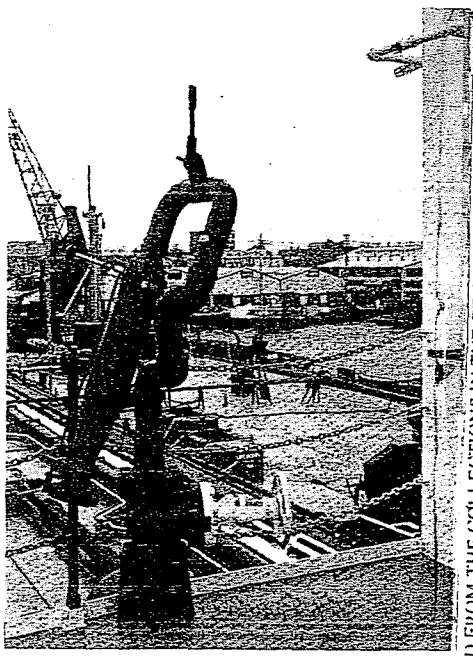




Right—Not only does the *Esso Houston* have a bulb on her bow, she has bulbs on the bridge wings (well-named, what?). Something else is new here - a ladder and walkway to the lifeboat. There's a 24′ boat port and starboard, each with diesel engine, fiberglass hull and 37-person capacity.

Far right—A foam monitor on port side of boat deck. On the house at upper right are water sprinklers to protect the monitor operator if a fire should make this position too hot.

taking suction from 2 sea chests, one forward and one aft. In addition, a separate ballast system is provided to serve the fore peak, fore deep and after ballast tanks, permitting ballasting and de-ballasting while discharging and loading.

Other Deck Dept. points of interest are:

Breakwaters on upper deck, port and starboard, protect outboard and forward corners of the house.

Complete Mackay radio transmitter, receiver and auto alarm.

26 fixed Butterworth tank cleaning machines in 13 tanks.

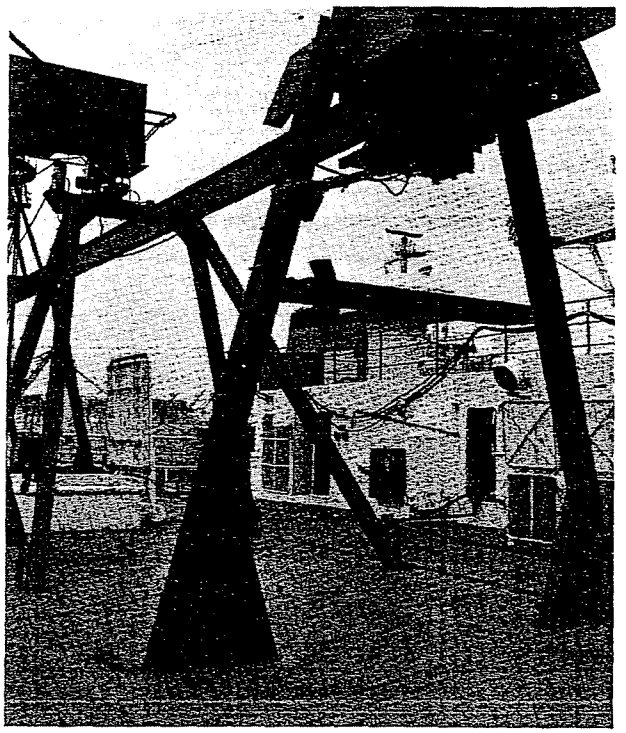
A 4-station fueling-at-sea system.

12½ ton stern anchor, the same as each bow anchor.

4 double drum and 4 single drum mooring winches; 1 cargo hose handling winch.

Electro-hydraulic steering system turning the rudder a maximum of 40°, port or starboard.

Extensive fire fighting equipment—a deck foam system, fixed foam system in engineroom, salt water system, CO_2 for generator rooms and emergency fire pump room, water fog for paint locker, lamp room, etc., steam smothering for boiler casing, and numerous portable dry chemical extinguishers.

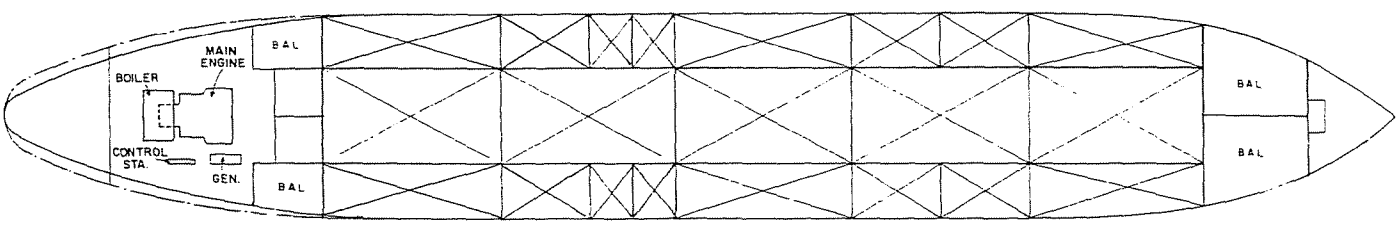


Those in a position to know call this "the greatest thing that has happened in ship storing." It's a gantry that runs the width of the poop deck and is extendable 5′ out from either side of the ship. A traveling hoist, operated by push buttons, runs on the beam and can lift loads up to 1½ tons from dockside and lower them down a hatch (left background with cover up) to the Steward's storeroom or the engineroom. A shipyard crane is in upper left.

The Engineroom

An Engine Dept. man going below should be prepared for as many surprises in the machinery spaces as a Deck man will find topside. If you descend by the after ladder, you arrive in the steering gear room and from there you go forward between ballast and fresh water tanks and arrive on an engineroom grating. It's like entering a well-lighted, mammoth underground cavern. The

Cargo tank arrangement.



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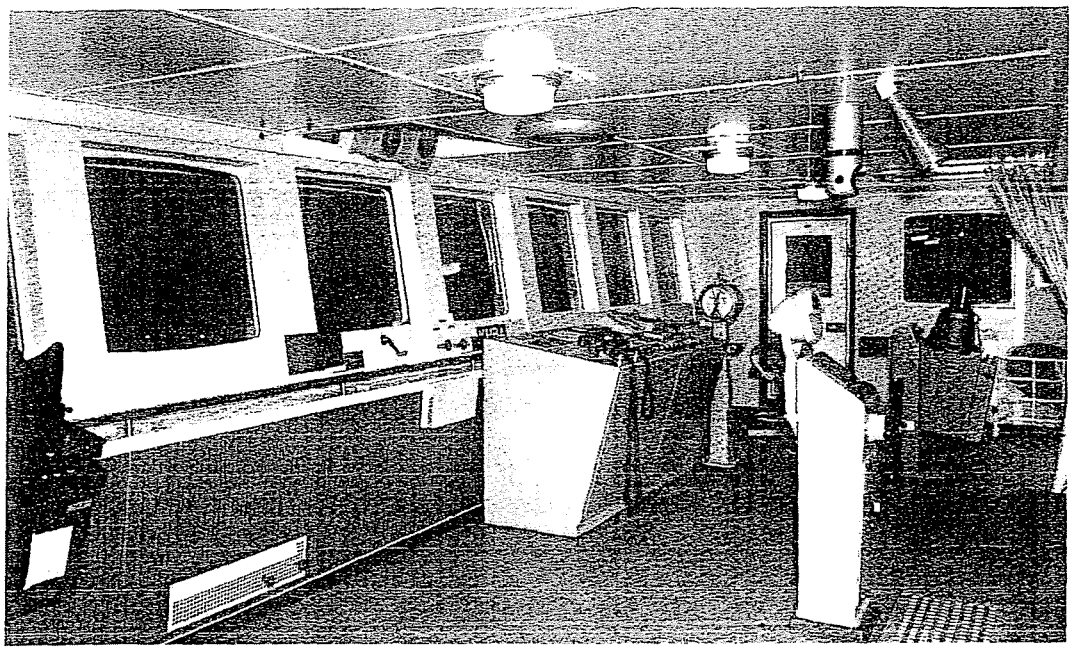
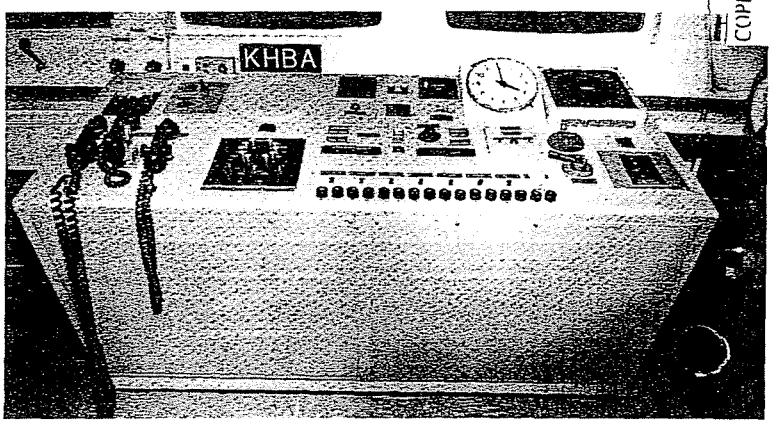


Above—Wheelhouse equipment includes, l. to r., Decca "202" radar with 9" scope, slanted windows with wipers and spray washers, command console, engineroom telegraph, gyro-pilot and Decca "737" true motion radar with 12" scope.

Below — Close-up of command console. Included are radiotelephone (with plug-in also at radar console); sound-powered ship's telephone; loud hailer/talk back station (control buttons for other stations in circle, left center); Sal Log, indicating ship's speed and distance traveled (like an automobile speedometer); Fathometer; general alarm; whistle control for steam whistle on stack and air whistle on midship kingpost, and various indicator lights and switches.



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engine casing stretches high above with its forest of insulated pipes and air ducts. Directly below are the reduction gears, forward of them, the turbines and then the huge boiler. Turbines, gears and most of the other machinery are painted a pleasant medium gray, most everything else is white or aluminum. Below and to your right is the 750 kw, 3 phase, 60 cycle AC turbo-generator, which is designed for continuous operation — 6 month periods without shutdown for maintenance, adjustment or repair. Below on your left is an Aqua-Kem distilling plant capable of making 10,000 gals. of fresh water daily, automatically.

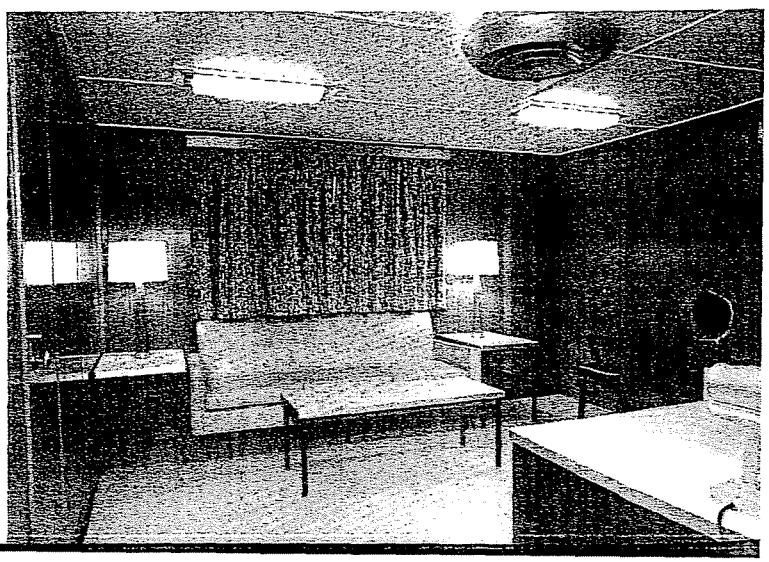
Down on the operating level you come to the Engineers' counterpart of the bridge command console only this one is about 3 times as long and twice as high. It is replete with push buttons, lights, levers, indicators and gages for the control of the boiler, turbines, generators and auxiliaries.

And now the boiler. She sits forward of the turbines, instead of aft, and is fired from the starboard side. There are 4 W. N. Best "Calorex" rotary cup burners, each with a firing rate ranging from 200 to 3,000 lbs. of bunker C per hour. Burners are motor-driven and firing is automatic from start to finish, although manual firing is provided. In the latter case, a light with a revolv-

Port side of chart room showing master clock, which controls 8 synchronized "slave" clocks, and radio direction finder (upper right). Settee can be curtained off so a weary Master may get "40 winks" while on the bridge for long periods.



Master's office is attractively furnished.



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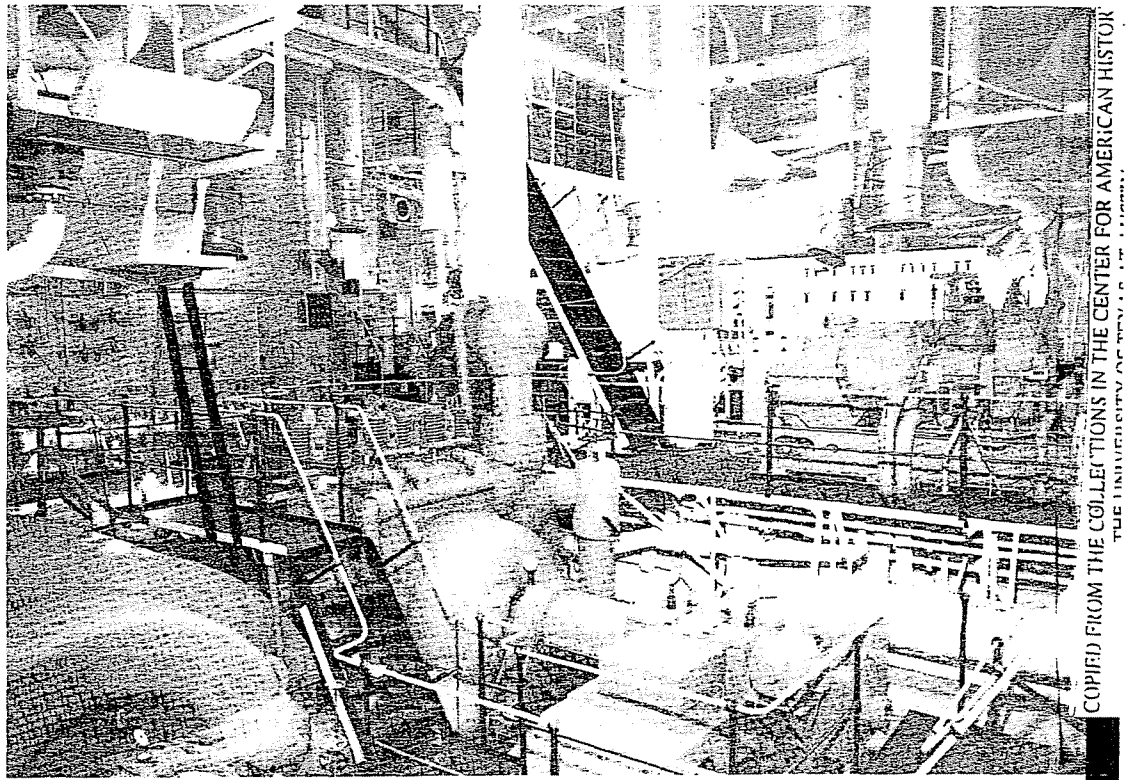

View across machinery space from port to starboard and forward. In left corner is low pressure turbine, high pressure turbine in center, boiler in left background and turbo-generator at right. Note fluorescent lights and absence of bulkhead between boiler and turbines.

Below left—The centralized engineroom control console. Automatic boiler firing controls are at left and left center; ahead and astern turbine throttle wheels, engineroom telegraph, revolution indicator, pressure, temperature and vacuum gages at right center, and generator controls at right.

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ing reflector (something like the light on top of police cars) operates to warn the engineer that she's not on automatic.

General Regulator combustion controls maintain superheater outlet pressure within —5% and +2% of designed pressure. water level within + or —6" of normal level and regulate fuel-air ratio, speed of forced draft fans and fuel oil service pumps to give optimum combustion conditions regardless of the number of burners in service.

Manufactured by Combustion Engineering Co., the boiler is of the 2-drum, single furnace type with a normal capacity of 140,000 lbs. of steam per hour at 600 psig. and 860° F. This is the same capacity as the *Esso Boston's* 2 boilers except that the steam pressure in the *Houston* is 250 lbs. lower.

Everything possible has been done to insure reliability in the boiler. Many former sources of leakage have been eliminated, there are fewer hand-hole plates and these are round and suitable for welding if necessary. The economizer has only 2 openings, there is no external desuperheater, no auxiliary condenser and no air heater tubes in the boiler — only a small, separate air preheater.

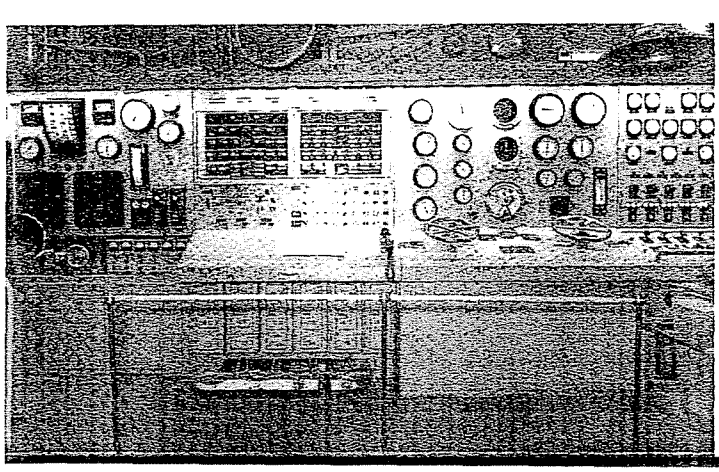
Propulsive power is by General Electric cross-compound, double reduction geared turbines developing 19,000 shp. at 103.2 rpm.

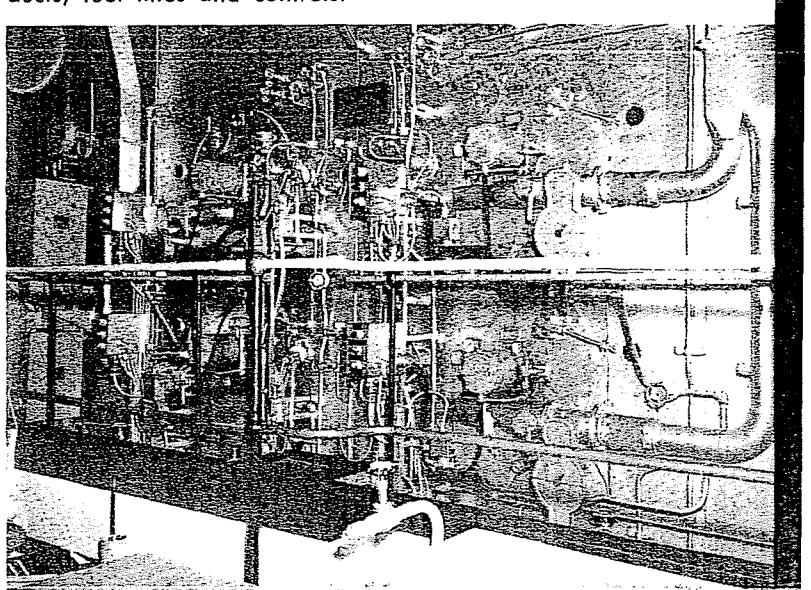
In addition to the 750 kw. turbo-generator, there is a 350 kw. diesel generator unit and a 25 kw. emergency diesel generator unit for electric power.

* * *

This has been a brief outline of the *Esso Houston's* features. She is so new, so different from anything we've had before that, for a time at least, she is bound to be controversial. Just as when Henry Ford switched from the Model T to the Model A, there will be those who turn thumbs down on the "new fangled gadgets." It's our guess though, that the *Houston* is going to make most of the other tankers in her trade look like Model Ts — not only look like them but act like them when you talk about "cost per barrel, U. S. Gulf to north of Hatteras." That's the main thing, isnt it?

Boiler front showing 4 burner motors, forced draft ducts, fuel lines and controls.





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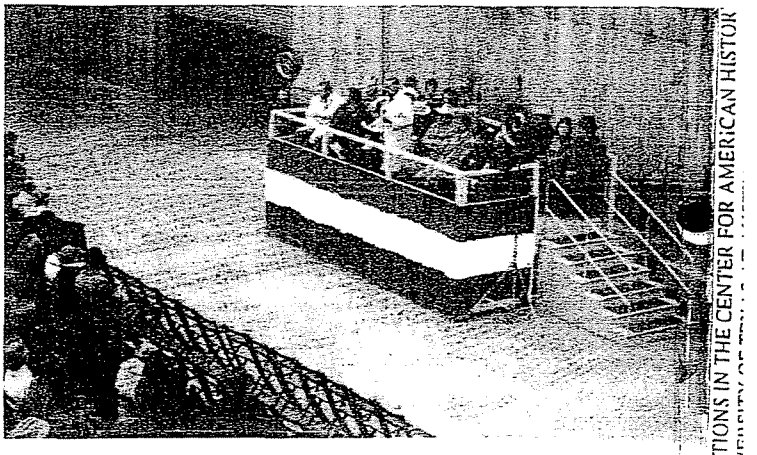
Esso Houston Welcomed at Houston

Official welcoming ceremonies for the *Esso Houston* were held at Wharves No. 1 and No. 2 on Dec. 18. The welcoming address was made by Howard Tellepsen, Chairman of the Houston Port Commission, and Councilman Frank Mancuso, representing Mayor Louie Welch and the City Council, presented a key to the city to Captain Fred G. Smith. A maiden voyage plaque was also presented to Captain Smith by Dan C. Clinton, Jr., President of the Houston Junior Chamber of Commerce.

Carl E. Reistle, Jr., Board Chairman of Humble, thanked the guests for their participation in the program and praised the *Esso Houston* and the men who sail her. "We believe," Mr. Reistle said, "in combining the best, most efficient and most modern of tools with the best people we can find — people of energy, initiative and high performance."

Mrs. Reistle, Sponsor of the *Esso Houston*, presented the officers and men of the ship (through Captain Smith) with 2 framed color photographs of the city of Houston and 2 sets of subscriptions to 5 magazines — LIFE, SPORTS ILLUSTRATED, U. S. NEWS & WORLD REPORT, OIL & GAS JOURNAL and POPULAR MECHANICS.



AB Alexus M. Michelson

Joseph Andreae, General Manager of the Marine Division (at the microphone) served as Master of Ceremonies during the official welcome for the *Esso Houston*. Several hundred business and civic leaders and Humble executives attended with their wives.

Following the ceremonies, the guests made an inspection of the ship until the early afternoon, when she sailed for Baytown for her first cargo.

On the previous day the *Esso Houston* had been open to the public.

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First Crew in the Esso Houston

These are the men (except as noted below) who took the *Esso Houston* out on her maiden voyage. While it is a distinction to be in the first crew of a new ship, it's a lot of hard work, too. There are things to straighten out, equipment to become familiar with and adjustments to be made to get her "shaped up" in the Esso Fleet tradition. These are chores enough but in addition, the men did a first-rate job of showing the ship to visitors on Dec. 18 and 19 at Houston.

Note: Radio Officer Carl W. Thenemann was relieved by James R. Reesor on Dec. 22 and MM/2P Kenneth P. Naley relieved William J. Starnes on Dec. 20. In addition, M/UM N. J. DeBarros is an original crewmember and Third Mate Joseph M. Stultz and Second Asst. Tom C. Hall assisted during the ship's stay at Houston.



F. G. Smith
Master



H. L. Sholes
Ch. Mate



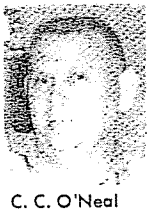
F. A. Missud
2nd Mate



D. M. Silcox
3rd Mate



T. J. Bov
Ch. Engr.



C. C. O'Neal
1st Asst.



D. F. Hettinger
2nd Asst.



Wm. Uftikowich
3rd Asst.



C. W. Thenemann
Radio Off'r



T. A. Mosley
AB



J. T. Stillman
AB



G. J. Gay
AB



R. G. Stanley
AB



C. Day, Jr.
AB



A. M. Michelson
AB



G. W. Young
OS



R. S. Wonson
OS



A. W. Hawkins
OS



L. J. Kelley
Pumpman



K. P. Naley
MM/2P



A. E. Johnson
Extra MM/2P



J. P. O'Donnell
Oiler



J. Hinojosa
Oiler



W. H. Matthews
Oiler



F. Eimans
Ch. Stew'd



J. Correia
Chef



A. P. DelToro
M/UM



T. Martinez
M/UM

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