

Received at London Office

FEB 1937

Date of writing Report 19 JAN 1938 When handed in at Local Office 21 JAN 1938 Port of New York  
No. in Survey held at New York Date, First Survey 27 Aug 1937 Last Survey 14 Jan 1938  
Reg. Book. on the s/s ESSO HOUSTON (Number of Visits 20) Tons { Gross 7699  
Net 4654

Built at	KEARNY N.J.	By whom built	FEDERAL S. B. + D. D. Co.	Yard No.	145	When built	1938
Engines made at	TRENTON N.J.	By whom made	DE LAVAL STEAM TURBINE Co.	Engine No.	226496	When made	1938
Boilers made at	CARTERET N.J.	By whom made	FOSTER WHEELER CORP <sup>N</sup>	Boiler No.	211/12	When made	1938
Shaft Horse Power at Full Power	3300 MAX 3000 NORMAL	Owners	STANDARD OIL CO. OF NEW JERSEY	Port belonging to	WILMINGTON, DEL		
Nom. Horse Power as per Rule	916	Is Refrigerating Machinery fitted for cargo purposes	NO		Is Electric Light fitted	YES	
Trade for which Vessel is intended	1912	CARRYING PETROLEUM IN BULK					

TEAM TURBINE ENGINES, &c.—Description of Engines

## GEARED STEAM TURBINES

No. of Turbines 2 } Direct coupled,  
 Ahead..... } single reduction geared  
 Astern..... } double reduction geared } to 1 propelling shafts. No. of primary pinions to each set of reduction gearing 2  
 direct coupled to { Alternating Current Generator ☒ phase \_\_\_\_\_ periods per second \_\_\_\_\_  
 { Direct Current Generator ☒ rated ☒ Kilowatts ☒ Volts at ☒ revolutions per minute;  
 for supplying power for driving ☒ Propelling Motors, Type \_\_\_\_\_  
 rated ☒ Kilowatts ☒ Volts at ☒ revolutions per minute. Direct coupled, single or double reduction geared to ☒ propelling shafts.

[illegible]

Shaft Horse Power at each turbine	H.P. 1585 ✓	Revolutions per minute, at full power, of each Turbine Shaft	H.P. 6003 ✓	1st reduction wheel 897 ✓
	L.P.		L.P.	main shaft 90 NORMAL ✓
	L.P. 1415 ✓		L.P. 5043 ✓	2nd reduction wheel 12" ✓

Rotor Shaft diameter at journals	H.P.	4"	Pitch Circle Diameter	1st pinion	8.221 LP	1st reduction wheel	76.200	Width of Face	1st reduction wheel	
	L.P.			2nd pinions	11.556	main wheel	118.241		main wheel	26.7
	L.P.	6"								
				1st pinion	10"	1st reduction wheel	10"			

Distance between centres of pinion and wheel faces and the centre of the adjacent bearings

1st pinion	22 7/8	main wheel	22 7/8
2nd pinion	19 3/4		

Flexible Pinion Shafts, diameter	1st	4 1/2 HP	Pinion Shafts, diameter at bearings	External	1st	5 1/2"	2nd	9"	diameter at bottom of pinion teeth	1st	7.975
	2nd	5 1/4 HP		Internal	1st	6"	2nd	6"		2nd	11.094
				Pinion Shaft diameter at bearings							

1st	52	diameter at wheel shroud,	1st	40.730	Generator Shaft, diameter at bearings
Wheel Shafts, diameter at bearings	15		main	118.791	Propelling Motor Shaft, diameter at bearings

as per rule..... 13.15" ✓  
as fitted..... 13 1/2

Thrust Shaft, diameter at collars as per rule.....  
as fitted..... 11" (No Torque)

Intermediate shafts, diameter as fitted 152  
as per rule 14.59 ✓  
Screw Shaft, diameter as per rule 152 ✓  
Is the ~~tube~~ screw shaft fitted with a continuous liner Yes

Tube Shaft, diameter \_\_\_\_\_ as fitted \_\_\_\_\_ ✓ as per rule \_\_\_\_\_ 3/4 ✓ as per rule \_\_\_\_\_ 9/16  
 \_\_\_\_\_ as per rule \_\_\_\_\_ 59/64 Thickness between bushes \_\_\_\_\_ as fitted \_\_\_\_\_ 11/16 Is the after end of the liner made watertight in \_\_\_\_\_

**Bronze Liners, thickness in way of busbar** as fitted 1/8" as fitted 1/8"  
**YES** If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner IN ONE LENGTH  
 Are the liners impervious to water and non-corrosive FITS TIGHT

If the liner does not fit tightly at the part between the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive? ☒ Is an approved Oil Gland or other appliance fitted at the after end of the propeller boss? ☒ 62

If two liners are fitted, is the shaft lapped or protected otherwise? ☒ No ☐ If so, state type \_\_\_\_\_

Length of Bearing in **Stern Bush** next to and supporting propeller shaft 4' 6" State whether Movable ☒ No ☐ Total Developed Surface 103.3 square

Propeller, diameter 17' 3" Pitch 14'-9" MEAN No. of Blades 4 Shaft diameter 2 1/2" YES Can the H.P. or I.P. Turbine exhaust direct to the 2 MAIN ROTARY 65 GPM / 1 A.V. 10' 6" x 24" K.S.

[illegible]

1- BILGE PUMP 12x8 1/2 x 12 HD ✓ 1- FIRE BILGE PUMP 12x8 1/2 x 12 HD ✓  
ELEC. MOTOR ✓

**Ballast Pumps, No. and size** *2 CARGO PUMPS / 1 STAMPING PUMP ✓*  
*1 CARGO BILGE PUMP 7 1/2 x 9 x 10 V.D. ✓*

Are two independent means arranged for circulating water through the Oil Cooler In Pump Room 1-4" ✓

No. and size: — In Engine and Boiler Room 4-3" ✓

1-4" New Tank 1-4" IN FORE PEAK 1-2" IN CHAIN LOCKER ✓

In Holds, &c. OIL PUMPING CARGO SYSTEM, 1-2 1/2" IN FOR "Pump Room, 1-3 1/2" R SIN COFFER DAMS, 2-3 1/2" IN DECK CARGO SPACE, 1-4 IN DECK THRU, 1-4 IN DECK THRU

Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes ☒ YES

Are the Bilge Suctions in the Machinery Space led from easily accessible mud-boxes, placed above the access to the machinery space? **YES** ✓

Are they fitted with Valves or Cocks **YES** ✓ **VALVES** ✓

Are the Sea Connections fitted direct on the skin of the ship **YES** ✓

Are the Overboard Discharges above or below the deep water line **BELOW** ✓

Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates YES Are the Overboard Discharge Cocks fitted with a spigot and brass covering plate 3460

Are they each fitted with a Discharge Valve? **NONE** ✓

What pipes pass through the bunkers? **CARGO PIPING ONLY** ✓

How are they protected? **YES** ✓

Have they been tested as per rule? **YES** ✓

Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times

Is the arrangement of valves and their connections such as to prevent the possibility of water passing from the tunnel to another tunnel? **YES** Is the Shaft Tunnel watertight? **NONE** Is it fitted with a watertight door? **YES** worked from **YES**



BOILERS, &c.—(Letter for record ✓) Total Heating Surface of Boilers 9190 sq ft. ✓  
Is Forced Draft fitted YES No. and Description of Boilers 2 WATER TUBE ✓ Working Pressure 450 LBS  
Is a Report on Main Boilers now forwarded? YES ✓  
Is { a Donkey } Boiler fitted? NO ✓ If so, is a report now forwarded? ✓  
Is { an Auxiliary }  
Is the donkey boiler intended to be used for domestic purposes only ✓  
Plans. Are approved plans forwarded herewith for Shafting YES Main Boilers YES Auxiliary Boilers ✓ Donkey Boilers ✓  
(If not state date of approval)  
Superheaters YES General Pumping Arrangements YES Oil Fuel Burning Arrangements NO  
SPARE GEAR.  
Has the spare gear required by the Rules been supplied YES  
State the principal additional spare gear supplied TAIL SHAFT

The foregoing is a correct description,

Patrol Ship building and Dry Dock Co  
C. J. Johnson, Atty. Ch. Eng.

Manufacturer.

Dates of Survey while building { During progress of work in shops -- } 1937 Aug 27 Sept 27, 29, 30 Oct 1, 4, 7, Nov 10  
{ During erection on board vessel -- } Nov 19, 23, 24, 30 Dec 17, 24 1938 Jan 4, 6, 10, 11, 14,  
Total No. of visits 20  
Dates of Examination of principal parts—Casings 11 Nov 1937 Rotors 11 Nov Blading 11/11/37 Gearing 11/11/37  
Wheel shaft 11/11/37 Thrust shaft 11/11/37 Intermediate shafts 7/10/37 Tube shaft ✓ Screw shaft 7/10/37  
Propeller 24/11/37 Stern tube 19/11/37 Engine and boiler seatings 23/11/37 Engine holding down bolts 31/12/37  
Completion of fitting sea connections 17/12/37 Completion of pumping arrangements 11/1/38 Boilers fixed Engines tried under steam 14/1/38  
Main boiler safety valves adjusted 11/1/38 Thickness of adjusting washers LOCK NUTS FITTED IN LIEU OF WASHERS  
Rotor shaft, Material and tensile strength HP STEEL 80000 TS LP NICKEL STEEL 120000 TS Identification Mark VESSEL NOT BUILT UNDER SURVEY  
Flexible Pinion Shaft, Material and tensile strength STEEL 80000 TS Identification Mark SHAFTS NOT STAMPED  
Pinion shaft, Material and tensile strength 3 1/2% NICKEL STEEL 100000 TS Identification Mark ✓  
1st Reduction Wheel Shaft, Material and tensile strength STEEL 80000 TS Identification Mark ✓  
Wheel shaft, Material STEEL Identification Mark ✓ Thrust shaft, Material STEEL Identification Mark ✓  
Intermediate shafts, Material STEEL Identification Marks ✓ Tube shaft, Material STEEL Identification Marks ✓  
Screw shaft, Material STEEL Identification Marks ✓ Steam Pipes, Material STEEL Test pressure 900 LBS. IN SHOP 675 LBS. IN PLACE  
Date of test 24/12/37 Is an installation fitted for burning oil fuel YES ✓  
Is the flash point of the oil to be used over 150° F. YES ✓ Have the requirements of the Rules for the use of oil as fuel been complied with YES ✓  
Is the vessel (not being an oil tanker) fitted for carrying oil as cargo OIL TANKER ✓ If so, have the requirements of the Rules been complied with ✓  
If the notation for ice strengthening is desired, state whether the requirements in this respect have been complied with NOT DESIRED  
Is this machinery a duplicate of a previous case YES ✓ If so, state name of vessel ESSO BAYWAY / N. Y. Reg 38079

General Remarks (State quality of workmanship, opinions as to class, &c.)

The machinery of this vessel has not been built under Special Survey but it has been examined & it complies with the Rules & the workmanship & machinery are good as far as can be seen. The steel forgings & castings have been tested by the representatives of the U. S. Govt & American Bureau of Shipping.

The machinery has been satisfactorily tried at full power & the electric welded joint cases & engine seatings afterwards examined & found good. It is now in good & safe working condition & eligible, in my opinion, to receive the notations L.M.C. 1.38 F.D. and 'FITTED FOR OIL FUEL 1.38 F.P. ABOVE 150° F'

The amount of Entry Fee ... £ 1000.00 INCLUSIVE :  
Special ... £ FEE :  
Donkey Boiler Fee ... £ :  
Travelling Expenses (if any) £ :  
When applied for, FEB 4 - 1938  
When received, 14/2 1938

Committee's Minute NEW YORK FEB 2 - 1938

Assigned LMC 1.38

McKinnell John S. Heck  
Engineer Surveyor to Lloyd's Register of Shipping.



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Foundation

Note F.D.  
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