

REPORT ON STEAM TURBINE MACHINERY. No. 21496

Received at London Office - 9 APR 1942

Date of writing Report 1st APRIL 1942 When handed in at Local Office 4th APRIL 1942 Port of GREENOCK

No. in Survey held at GREENOCK Date, First Survey 6th AUG. 1940 Last Survey 2nd APRIL 1942
Reg. Book. (Number of Visits 105)

on the "LLANDUDNO" Tons } Gross 681.49
Net 327.24

Built at PORT GLASGOW By whom built MESSRS W^m HAMILTON & CO LD. Yard No. 445 When built 1942

Engines made at RUGBY By whom made BRITISH THOMSON HOUSTON CO LD Engine No. J1029 When made 1942

Boilers made at RENFREW By whom made BABCOCK & WILCOX LD. Boiler No. J1029 When made 1942

Shaft Horse Power at Full Power 2000 Owners THE ADMIRALTY Port belonging to

Nom. Horse Power as per Rule 359.3 Is Refrigerating Machinery fitted for cargo purposes NO. Is Electric Light fitted YES

Trade for which Vessel is intended

STEAM TURBINE ENGINES, &c.—Description of Engines

No. of Turbines Ahead..... Direct coupled, single reduction geared } to propelling shafts. No. of primary pinions to each set of reduction gearing
Astern..... double reduction geared }

direct coupled to { Alternating Current Generator phase periods per second } rated Kilowatts Volts at revolutions per minute;
for supplying power for driving Propelling Motors, Type.....
Direct Current Generator }

rated Kilowatts Volts at revolutions per minute. Direct coupled, single or double reduction geared to propelling shafts.

TURBINE BLADING.	H.P.			I.P.			L.P.			ASTERN.		
	HEIGHT OF BLADES.	DIAMETER AT TIP.	NO. OF ROWS.	HEIGHT OF BLADES.	DIAMETER AT TIP.	NO. OF ROWS.	HEIGHT OF BLADES.	DIAMETER AT TIP.	NO. OF ROWS.	HEIGHT OF BLADES.	DIAMETER AT TIP.	NO. OF ROWS.
1ST EXPANSION												
2ND												
3RD												
4TH												
5TH												
6TH												
7TH												
8TH												
9TH												
10TH												
11TH												
12TH												

LONDON REPORT NO 109319

Shaft Horse Power at each turbine { H.P. I.P. L.P. } Revolutions per minute, at full power, of each Turbine Shaft { H.P. I.P. L.P. } 1st reduction wheel main shaft

Rotor Shaft diameter at journals { H.P. I.P. L.P. } Pitch Circle Diameter { 1st pinion 2nd pinion } 1st reduction wheel main wheel Width of Face { 1st reduction wheel main wheel }

Distance between centres of pinion and wheel faces and the centre of the adjacent bearings { 1st pinion 2nd pinion } 1st reduction wheel main wheel

Flexible Pinion Shafts, diameter { 1st 2nd } Pinion Shafts, diameter at bearings External Internal { 1st 2nd } diameter at bottom of pinion teeth { 1st 2nd }

Wheel Shafts, diameter at bearings { 1st main } diameter at wheel shroud, { 1st main } Generator Shaft, diameter at bearings Propelling Motor Shaft, diameter at bearings

Intermediate Shafts, diameter as per rule..... APPROVED as fitted 6.34" Thrust Shaft, diameter at collars as per rule..... as fitted

Tube Shaft, diameter as per rule..... as fitted Screw Shaft, diameter as per rule..... APPROVED as fitted 6.32" Is the { tube screw } shaft fitted with a continuous liner { No. }

Bronze Liners, thickness in way of bushes as per rule..... as fitted Thickness between bushes as per rule..... as fitted Is the after end of the liner made watertight in the propeller boss..... If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner.....

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..... If two liners are fitted, is the shaft lapped or protected between the liners..... Is an approved Oil Gland or other appliance fitted at the after end of the tube shaft YES If so, state type CEDERYAL Length of Bearing in Stern Bush next to and supporting propeller 2.75"

Propeller, diameter 6.9" Pitch 5.7" No. of Blades 3 State whether Moveable NO. Total Developed Surface 12.5 square feet. If Single Screw, are arrangements made so that steam can be led direct to the L.P. Turbine..... Can the H.P. or I.P. Turbine exhaust direct to the

Condenser..... No. of Turbines fitted with astern wheels..... Feed Pumps { No. and size 4-5.7"x12" (2 IN EACH B.R.) How driven STEAM.

Pumps connected to the Main Bilge Line { No. and size 2-5.4"-6"x12. How driven STEAM. 2 STEAM EJECTORS IN EACH BOILER ROOM CAPACITY 20 TONS/HR EACH EJECTOR.

Ballast Pumps, No. and size..... Lubricating Oil Pumps, including Spare Pump, No. and size 2-6-5.2"x15" Are two independent means arranged for circulating water through the Oil Cooler YES Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge

Pumps, No. and size:—In Engine and Boiler Room E.R. 3-2.2"DIA. BR. 1 IN EACH 2.2"DIA. In Pump Room In Holds, &c. FORB SPACES 3-2.2"DIA. 2 N°3 HOSE CONNECTIONS. AFT SPACES 2-2.2"DIA. 2 N°3 HOSE CONNECTIONS.

Main Water Circulating Pump Direct Bilge Suctions, No. and size 2-6"DIA. Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 2-2.2"DIA. 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 level of the working floor, with straight tail pipes to the bilges YES Are all Sea Connections fitted direct on the skin of the ship YES Are they fitted with Valves or Cocks BOTH.

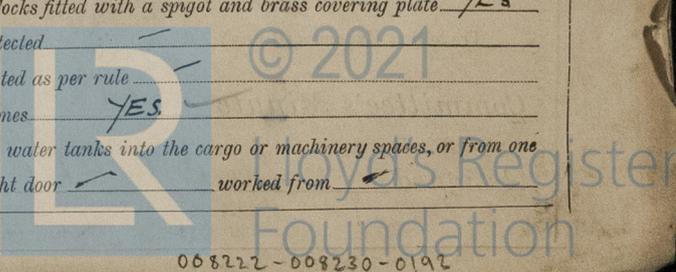
Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates YES Are the Overboard Discharges above or below the deep water line BELOW Are they each fitted with a Discharge Valve always accessible on the plating of the vessel YES. Are the Blow Off Cocks fitted with a spigot and brass covering plate YES

What pipes pass through the bunkers NONE How are they protected Have they been tested as per rule YES

What pipes pass through the deep tanks..... Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times YES

Is the arrangement of valves and their connections such as to prevent the possibility of water passing from the sea or from water tanks into the cargo or machinery spaces, or from one compartment to another YES Is the Shaft Tunnel watertight YES Is it fitted with a watertight door worked from

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4 R. 1.5 11.14
25 OCT. 10.18
1.23.30 AUG. 5
FEB. 5. 11. 13.14
1946



BOILERS, &c.—(Letter for record *W.T.*) Total Heating Surface of Boilers *3700 sq*
 Is Forced Draft fitted *YES* No. and Description of Boilers *2 - YARROW TYPE* Working Pressure *250/28*
 Is a Report on Main Boilers now forwarded? *GLASGOW RPT NO 62833*
 Is *a Donkey* Boiler fitted? *NO* If so, is a report now forwarded?
 Is the donkey boiler intended to be used for domestic purposes only
 Plans. Are approved plans forwarded herewith for Shafting *10/4/40* Main Boilers Auxiliary Boilers Donkey Boilers
 (If not state date of approval)
 Superheaters General Pumping Arrangements *AS. APPROVED* Oil Fuel Burning Arrangements *1/7/40*
SPARE GEAR.
 Has the spare gear required by the Rules been supplied
 State the principal additional spare gear supplied *AS. PER. SPECIFICATION.*

P. P. WAITE'S MARINE ENGINEERING CO. LTD.
J. J. Caldwell
 Manufacturer

The foregoing is a correct description,

Dates of Survey while building
 During progress of work in shops -- (1940) Aug. 6. SEPT. 6-24. OCT. 1-4. 14-25-30. NOV. 18-29. DEC. 13-17. (1941) JAN. 3-24. FEB. 14. MAR. 4-18. MAY 29-30. JUNE 23-24. JUL. 2-15-29. AUG. 4-13-15-22-25-24. SEP. 1-15-16-17-19-20-22-23-24-25-26-27-29-31. APL. 1-2.
 During erection on board vessel ---
 Total No. of visits *105.*

Dates of Examination of principal parts—Casings Rotors *3375 3387* Blading Gearing *5162/4*
 Wheel shaft Thrust shaft Intermediate shafts *A.S. 29/8/40* Tube shaft Screw shafts *J.F.C. 24/9/40*
 Propeller *3/1/41* Stern tube *24/10/40* Engine and boiler seatings *29-9/40* Engine holding down bolts *24/3/42*
 Completion of fitting sea connections *17/12/40* Completion of pumping arrangements *24/3/42* Boilers fixed *30/10/40* Engines tried under steam *3/3/42*
 Main boiler safety valves adjusted *27/2/42* Thickness of adjusting washers *3/8"*

Rotor shaft, Material and tensile strength Identification Mark
 Flexible Pinion Shaft, Material and tensile strength Identification Mark
 Pinion shaft, Material and tensile strength Identification Mark *12627 G.S.P.*
 1st Reduction Wheel Shaft, Material and tensile strength Identification Mark
 Wheel shaft, Material Identification Mark Thrust shaft, Material Identification Mark
 Intermediate shafts, Material *S.M. Steel* Identification Marks *3375 3387* Tube shaft, Material Identification Marks
 Screw shaft, Material *S.M. Steel* Identification Marks *5162/4* Steam Pipes, Material *S.O. Steel* Test pressure *AT Newcastle*
 Date of test 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 *NO* 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

Is this machinery a duplicate of a previous case *Yes*. If so, state name of vessel *"ILFRACOMBE" (Banger Class)*
 General Remarks (State quality of workmanship, opinions as to class, &c.) *The machinery of this vessel is eligible, in my opinion, for the Record of + L.M.C. 4/42, and the Notation 2. W.T.B. - F.D.*

The machinery and the Boilers have been recently fitted in the vessel under steam at sea trials and found satisfactory and is in accordance with the Admiralty Specification. The pinion shafts of both engines have been replaced and the original pinions which were badly pitted due to exposure to the weather, have been returned to the makers for reconditioning.

The amount of Entry Fee ... £
 Special ... £
 Donkey Boiler Fee ... £
 Travelling Expenses (if any) £

When applied for, 19
 When received, 19

M. Caldwell
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute *GLASGOW 8 APR 1942*
 Assigned *1- LMC 4.42*
2 WTB 28



Certificate (if required) to be sent to... (The Surveyors are requested not to write on or below the space for Committee's Minute.)