

REPORT ON STEAM TURBINE MACHINERY. No. 95792

Received at London Office JAN 5 1938

Date of writing Report 19 When handed in at Local Office 31/12/37 Port of **NEWCASTLE-ON-TYNE**

No. in Survey held at **Newcastle on Tyne** Date, First Survey 13/5/37 Last Survey 29/12/1937
Reg. Book. on the **S/S "BASSANO"** (Number of Visits 85)

Built at **Newcastle on Tyne** By whom built **Swan, Hunter & Wyham** Yrd No. 1560 When built 1937-12
Engines made at **do** By whom made **ditto Richardson & Co** Engine No. 1560 When made 1937
Boilers made at **do** By whom made **ditto** L.P. Turb. Boiler No. 1560 When made 1937.

Shaft Horse Power at Full Power 1525 Owners **Ellerman Wilson Line** Port belonging to **HULL**.
Nom. Horse Power as per Rule 779 7/8 Is Refrigerating Machinery fitted for cargo purposes **Yes** Is Electric Light fitted **Yes**
Trade for which Vessel is intended **combined with Recip. Eng.**

STEAM TURBINE ENGINES, &c.—Description of Engines **Recip Eng combined with Exh. Steam Turbine, DR Geared and hydraulic coupling.**

No. of Turbines Ahead **One** Direct coupled, single reduction geared to **One** propelling shaft. No. of primary pinions to each set of reduction gearing **One**
Astern **—** double reduction geared

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.

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							67	934	1			
2ND							88	976	1			
3RD							109	1018	1			
4TH							130	1060	1			
5TH							151	1102	1			
6TH							181	1162	1			
7TH							210	1220	1			
8TH												
9TH												
10TH												
11TH												
12TH												

Shaft Horse Power at each turbine **Exh STM. H.P. — I.P. — L.P. 1525.** Revolutions per minute, at full power, of Turbine Shaft **Exh STM. H.P. — I.P. — L.P. 3234** 1st reduction wheel 466. main shaft 90.

Rotor Shaft diameter at journals **H.P. — I.P. — L.P. 170** Pitch Circle Diameter { 1st pinion 260.667 1st reduction wheel 1808.376 2nd pinion 463.484 main wheel 2330.4779 } Width of Face { 1st reduction wheel 290 main wheel 610 }

Distance between centres of pinion and wheel faces and the centre of the adjacent bearings { 1st pinion 295 2nd pinion 505 } 1st reduction wheel 415 main wheel 590

Flexible Pinion Shafts, diameter { 1st — 2nd — } Pinion Shafts, diameter at bearings External 1st 170 2nd 420 Internal 1st 355 2nd — diameter at bottom of pinion teeth { 1st 246.0216 2nd 441.9402 }

Wheel Shafts, diameter at bearings { 1st 300 main 550 } diameter at wheel shroud, { 1st 1738 main 2230 } Generator Shaft, diameter at bearings Propelling Motor Shaft, diameter at bearings

Intermediate Shafts, diameter as per rule 14.37 as fitted 14.34 Thrust Shaft, diameter at collars as per rule as fitted

QUILL SHAFT as per rule 14.07 ABAFT CRANK SHAFT as fitted 385 Screw Shaft, diameter as fitted Is the tube shaft fitted with a continuous liner

Bronze Liners, thickness in way of bushes as per rule as fitted Thickness between bushes 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 insulating 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 If so, state type Length of Bearing in Stern Bush next to and supporting propeller

Propeller, diameter Pitch No. of Blades State whether Movable Total Developed Surface 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 How driven

Pumps connected to the Main Bilge Line No. and size How driven SEE REPORT

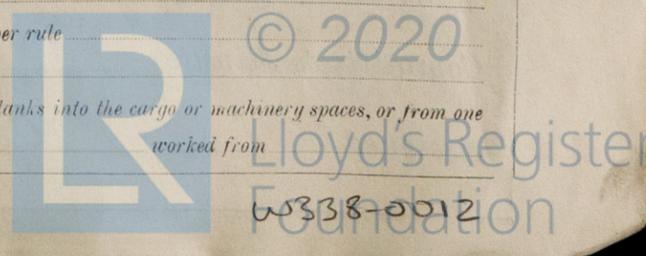
Ballast Pumps, No. and size Lubricating Oil Pumps, including Spare Pump, No. and size Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge In Pump Room

Are two independent means arranged for circulating water through the Oil Cooler 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

Are all Sea Connections fitted direct on the skin of the ship Are they fitted with Valves or Cocks Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates Are the Overboard Discharges above or below the deep water line

Are they each fitted with a Discharge Valve always accessible on the plating of the vessel. Are the Blow Off Cocks fitted with a spigot and brass covering plate How are they protected Have they been tested as per rule

What pipes pass through the bunkers 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 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 Is the Shaft Tunnel watertight Is it fitted with a watertight door



BOILERS, &c.—(Letter for record) Total Heating Surface of Boilers _____ Working Pressure _____
 Is Forced Draft fitted _____ No. and Description of Boilers *July*
 Is a Report on Main Boilers now forwarded? _____
 Is **a Donkey Boiler** fitted? _____ 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 _____ Main Boilers _____ Auxiliary Boilers _____ Donkey Boilers _____
 Superheaters _____ General Pumping Arrangements _____ Oil Fuel Burning Arrangements _____

SPARE GEAR.

Has the spare gear required by the Rules been supplied _____
 State the principal additional spare gear supplied *1. Spare bearing of each size fitted.
 1 set of thrust pads for each thrust bearing.
 1 spring & 1 set of washers for emergency governor, etc*

FOR SWAN, HUNTER, & WIGHAM RICHARDSON, LTD.

G. J. Meehan DIRECTOR, Manufacturer.

The foregoing is a correct description,

Dates of Survey *See Rpt 4*
 During progress of work in shops --
 While building *See Rpt 4*
 Total No. of visits _____
 Dates of Examination of principal parts—Casings *15/10/37* Rotors *11/10/37* Blading *1/11/37* Gearing *1/11/37*
 Wheel shaft *1/11/37* *Quill inter shaft 1/11/37* Intermediate shafts Tube shaft Screw shaft
 Propeller Stern tube *See Report 4 on Recip. Engines.* Engine and boiler seatings Engine holding down bolts
 Completion of fitting sea connections Completion of pumping arrangements Boilers fixed Engines tried under steam *21/12/37*
 Main boiler safety valves adjusted Thickness of adjusting washers
 Rotor shaft, Material and tensile strength *S.M. Steel 37.8 tons* Identification Mark *7276 HAI.*
 1st Redn. Flexible/Pinion Shaft, Material and tensile strength *Nickel Steel 42.5 tons* Identification Mark *7013 DB 7275 HAI.*
 2nd Redn. Pinion shaft, Material and tensile strength *Nickel Steel 49.8 tons* Identification Mark *7434A. HAI.*
 1st Reduction Wheel Shaft, Material and tensile strength *S.M. Steel 29.8 tons* Identification Mark *7276 HAI.*
 Wheel shaft, Material *S.M. Steel* Identification Mark *7276 HAI.* Thrust shaft, Material Identification Mark
 Quill Intermediate shaft, Material *S.M. Steel* Identification Marks *7276 HAI.* Tube shaft, Material Identification Marks
 abaft Crank shaft. Identification Marks Steam Pipes, Material Test pressure
 Date of test *See Report 4 on Recip. Engine.* Is an installation fitted for burning oil fuel
 Is the flash point of the oil to be used over 150°F. Have the requirements of the Rules for the use of oil as fuel been complied with
 Is the vessel (not being an oil tanker) fitted for carrying oil as cargo. 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 *Yes. ✓*
 Is this machinery a duplicate of a previous case *Yes* If so, state name of vessel *S/S CONSUELO.*
 General Remarks (State quality of workmanship, opinions as to class, &c.)

The Machinery has been built under special survey in accordance with the Rules & approved plans, and the materials and workmanship are good. It has been satisfactorily installed on board with the Recip. Engine (Rpt 4) and tried under full working conditions. Please also See Report 4 on Recip Engines herewith.

The amount of Entry Fee ... £	<i>See Rpt 4.</i>	When applied for,	
Special ... £	:		19
Donkey Boiler Fee ... £	:	When received,	
Travelling Expenses (if any) £	:		19

A. Watt.
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute **FRI 14 JAN 1938**

Assigned *See Navc. J.E. 95792*

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

