

REPORT ON STEAM TURBINE MACHINERY.

No. 47531
1 FEB 1928

Received at London Office

Writing Report 19 When handed in at Local Office 30.1.1928 Port of Glasgow
 Survey held at Glasgow Date, First Survey 22.2.27 Last Survey 17th Jan. 1928
 (Number of Visits 86)
 Tons } Gross 10042
 Net 6060
 Built at Glasgow By whom built Barclay Curle & Co. Ltd. Yard No. 617. When built 1928.
 Engines made at Waltham By whom made Parsons Marine Steam Turbine Co. Ltd. Engine No. 241. When made 1928.
 Boilers made at Glasgow By whom made Parsons & Co. (Glasgow) Ltd. Boiler No. 15372. When made 1928.
 Shaft Horse Power at Full Power 8000. Owners Canadian Prospecting Co. Ltd. Port belonging to London.
 Net Horse Power as per Rule 1544. Is Refrigerating Machinery fitted for cargo purposes y/s. Is Electric Light fitted y/s.
 Trade for which Vessel is intended North Atlantic

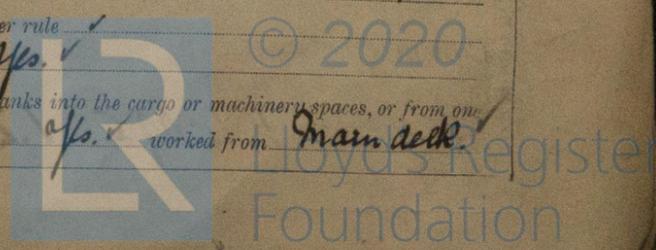
STEAM TURBINE ENGINES, &c.—Description of Engines

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;
 } Direct Current Generator }
 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 LOADING.	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.
EXPANSION.....												
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Shaft Horse Power at each turbine } H.P. }
 } I.P. } revolutions per minute, at full power, of each Turbine Shaft }
 } L.P. }
 Propeller Shaft diameter at journals } H.P. } 1st reduction wheel }
 } I.P. } Pitch Circle } 1st pinion 1st reduction wheel }
 } L.P. } Diameter } 2nd pinion main wheel } Width of Face } 1st reduction wheel }
 } } } } main wheel }
 Distance between centres of pinion and wheel face and the centre of the adjacent bearings } 1st pinion 1st reduction wheel }
 } 2nd pinion main wheel }
 Movable Pinion Shafts, diameter } 1st }
 } 2nd } Pinion Shafts, diameter at bearings } External } 1st } diameter at bottom of pinion teeth }
 } Internal } 2nd }
 Wheel Shafts, diameter at bearings } 1st } diameter at wheel shroud, } 1st } Generator Shaft, diameter at bearings }
 } main } main } Propelling Motor Shaft, diameter at bearings }
 Intermediate Shafts, diameter as per rule } Thrust Shaft, diameter at collars as per rule } Tube Shaft, diameter as per rule }
 } as fitted } as fitted } as fitted }
 Screw Shaft, diameter as per rule } Is the screw shaft fitted with a continuous liner } y/s. } Bronze Liners, thickness in way of bushes as per rule }
 } as fitted } } as fitted }
 Thickness between bushes as per rule } Is the after end of the liner made watertight in the propeller boss } y/s. } If the liner is in more than one length are the junctions }
 } as fitted } } }
 Sealed 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 }
 } stic 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 }
 } other appliance fitted at the after end of the tube shaft } No. } Length of Bearing in Stern Bush next to and supporting propeller } 5'-7 1/2 }
 Propeller, diameter 15'-9" } Pitch 15'-6" } No. of Blades 3 } State whether Moveable } No. } Total Developed Surface } 78 } square feet.
 Angle 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 }
 } }
 Number of Turbines fitted with astern wheels } Feed Pumps } No. and size 2 @ 18x11 1/2 x 24; 2 @ 9 1/2 x 7 x 21 }
 } How driven Steam }
 Pumps connected to the Main Bilge Line } No. and size 1 @ 10x14x15; 1 @ 7x9x8; 2 @ 11x7 1/2 x 15 }
 } How driven Steam }
 Fast Pumps, No. and size 1 @ 10x14x15 } Lubricating Oil Pumps, including Spare Pump, No. and size 4 @ 6 1/2 x 7 x 15 }
 Two independent means arranged for circulating water through the Oil Cooler } Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge }
 } No. and size: In Engine and Boiler Room ER. 4 @ 3 1/2; Copudans 2 @ 2 1/2; B.R. 4 @ 3 1/2; Duct Rul 1 @ 2 1/2; Humel 2 @ 2 1/2; Sumka 2 @ 3 }
 } olds, &c. No. 1-2 @ 3; No. 2-2 @ 3; No. 3-2 @ 4; No. 4-2 @ 2 1/2; No. 5-2 @ 3; No. 6-2 @ 3 }
 Water Circulating Pump Direct Bilge Suctions, No. and size 2 @ 13" } Independent Power Pump Direct Suctions to the Engine Room }
 } No. and size 2 @ 5 1/2 } Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes } y/s. }
 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 } y/s. }
 All Sea Connections fitted direct on the skin of the ship } y/s. } Are they fitted with Valves or Cocks } Both }
 They fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates } y/s. } Are the Overboard Discharges above or below the deep water line } Below }
 They each fitted with a Discharge Valve always accessible on the plating of the vessel } y/s. } Are the Blow Off Cocks fitted with a spigot and brass covering plate } y/s. }
 Pipes pass through the bunkers } None } How are they protected }
 Pipes pass through the deep tanks } Have they been tested as per rule }
 All Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times } y/s. }
 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 } y/s. } Is the Shaft Tunnel watertight } hull repair } Is it fitted with a watertight door } y/s. } worked from } Main deck }

W339-0069



BOILERS, &c.—(Letter for record *S*) Total Heating Surface of Boilers *17736 sq*
 Is Forced Draft fitted *Yps* No. and Description of Boilers *4 Janors WT. + 2 SB Scotch 2SB* Working Pressure *250 lb*
 Is a Report on Main Boilers now forwarded? *Yps*
 If so, is a report now forwarded?
 Is *a Donkey* Boiler fitted? *Yps*
 Plans. Are approved plans forwarded herewith for Shafting *24.9.26* Main Boilers *6.8.26* Auxiliary Boilers *Yps* Donkey Boilers *Yps*
 (If not state date of approval) *5.10.26* *17.12.26*
 Superheaters *13.10.26* General Pumping Arrangements *Yps* Oil Fuel Burning Arrangements *Yps*
 Spare Gear. State the articles supplied:—

In accordance with Rule requirements, and in addition 2 screw shafts and 4 cast
 steel propellers for this and sister vessels.

96-MK-29.12.26 *96*: 2280-JL-2.2.27
 113-MK-5.1.27 " : 201/202-194-4.2.27
 1874-JQ-19.1.27 " : 2332-JL-9.2.27
 166/8-MK-21.1.27 " : 693-US-2.3.27
 170- " " " " " "

FOR BARCLAY, CURLE & CO., LTD.

John Hayward
 ENGINE WORKS MANAGER

The foregoing is a correct description,

Dates of Survey while building
 During progress of work in shops -- 1927 Feb 22 Mar 10 15 17 23 28 Apr 1 4 6 12 15 20 21 25 27 May 2 3 10 18 28 30 31 Jun 2 10 16 17 20 23 28 Jul 1 11 13 Aug 3 9 15 16 17 19 30 31 Sep 1 2 5 6 8 9 12 13 15 16 19 20 21 23 27 29 30 Oct 3 6 10 12 13 17 18 24 25 26 27 31 Nov 4 24 25 28 30 Dec 2 6 29 30 (1928) Jan 10 11 15 17
 During erection on board vessel ---
 Total No. of visits 86

Dates of Examination of principal parts—Casings Rotors Blading Gearing
 Wheel shaft Thrust shaft Intermediate shafts 15.9.27 Tube shaft Screw shaft 20.9.27
 Propellers 20.9.27 Stern tube 30.9.27 Engine and boiler seatings 3.10.27 Engine holding down bolts 10.1.28
 Completion of pumping arrangements 10.1.28 Boilers fixed 29.12.27 Engines tried under steam 17.1.28
 Main boiler safety valves adjusted 13.1.28 Thickness of adjusting washers *F.P. 15 3/8; F.C. 16 5/8; F.S. 17 3/8; S 11/2; A.P. 20 5/8; A.C. 17 5/8; A.S. 17 3/4*

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
 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. Supt Steel* Identification Marks *See above* Tube shaft, Material Identification Marks
 Screw shaft, Material *do.* Identification Marks *5351 D-806-97* Steam Pipes, Material *Steel* Test pressure *450 lb*
 Date of test 26.12.27 Is an installation fitted for burning oil fuel *No.*

Is the flash point of the oil to be used over 150°F. *Yps* Have the requirements of the Rules for carrying and burning oil fuel been complied with *Yps*
 Is this machinery a duplicate of a previous case *Yps*. If so, state name of vessel *Beaverham.*

General Remarks (State quality of workmanship, opinions as to class, &c.)
The machinery other than that mentioned in Newcastle Report No. 81939 has been built at Messrs Barclay Curle and Messrs Burns under special Survey. The materials and workmanship are good. The machinery has been efficiently secured in position on board and on completion has been tried under full working conditions with satisfactory results. The requirements for navigation in ice have been complied with. The machinery of this vessel is eligible, in my opinion, to be classed in the Register Book with notation of +L.M.C. 1.28.

The amount of Entry Fee ... £ *6* : - :
 Special *due after 24.18.0* £ *83* : *18* : 0
 Donkey Boiler Fee ... £ *27* : 18 : 0
 Travelling Expenses (if any) £ : :
 When applied for, 31.1.28
 When received, 3.2.28

John Hayward
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute **GLASGOW 31 JAN 1928**

Assigned *+ L.M.C. 1.28.*
F.D.

A. G. Glasgow 30/1/28

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



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