

REPORT ON MACHINERY.

No. 41220.

Date of writing Report 9.7.1921 When handed in at Local Office 9.7.21 Port of Glasgow  
No. in Survey held at Clydebank Date, First Survey 17th Feb, Last Survey 14th July 1921  
Reg. Book. 57369 on the Hs. "Elisiana" (Number of Visits 14)  
Master Built at Newton Hill on Yew By whom built The Furness S.B.C. No. 17 When built  
Engines made at Clydebank By whom made John Brown & Co. Ltd. No. 50-53 when made 1921  
Boilers made at Middlesbrough By whom made Richardson Westgarth & Co. Ltd. when made 1922  
Registered Horse Power - Owners Furness Withy & Co. Ltd. Port belonging to Liverpool  
Shaft Horse Power at Full Power 3000 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

URBINE ENGINES, &c.—Description of Engines Brown Curtis S.B. Grand Turbine No. of Turbines 2  
Diameter of Rotor Shaft Journals, H.P. 7 1/2 L.P. 10 Diameter of Pinion Shafts H.P. 9" L.P. 9" with 3" hole  
Diameter of Journals 9" Distance between Centres of Bearings H.P. 3 1/2 L.P. 3 1/2 Diameter of Pitch Circle 10.012  
Diameter of Wheel Shaft 17" to 25" Distance between Centres of Bearings 7' 1 1/4" Diameter of Pitch Circle of Wheel 144.21"  
Width of Face 50 Diameter of Thrust Shaft under Collars Diameter of Tunnel Shaft as per rule as fitted  
No. of Screw Shafts Diameter of same as per rule as fitted Diameter of Propeller Pitch of Propeller  
No. of Blades State whether Moveable Total Surface Diameter of Rotor Drum, H.P. L.P. Astern  
Thickness at Bottom of Groove, H.P. L.P. Astern Revs. per Minute at Full Power, Turbine 1270 Propeller 88

ARTICULARS OF BLADING.

	H. 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.
1ST EXPANSION .....									
2ND " .....									
3RD " .....									
4TH " .....									
5TH " .....									
6TH " .....									
7TH " .....									
8TH " .....									

No. and size of Feed pumps  
No. and size of Bilge pumps  
No. and size of Bilge suction in Engine Room  
In Holds, &c.  
No. of Bilge Injections sizes Connected to condenser, or to circulating pump Is a separate Donkey Suction fitted in Engine Room & size  
Are all the bilge suction pipes fitted with roses Are the roses in Engine room always accessible  
Are all connections with the sea direct on the skin of the ship Are they Valves or Cocks  
Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates Are the Discharge Pipes 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  
What pipes are carried through the bunkers How are they protected  
Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times  
Are the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges  
Is the Screw Shaft Tunnel watertight Is it fitted with a watertight door worked from

BOILERS, &c.—(Letter for record)

Manufacturers of Steel  
Total Heating Surface of Boilers Is Forced Draft fitted No. and Description of Boilers  
Working Pressure Tested by hydraulic pressure to Date of test No. of Certificate  
Can each boiler be worked separately Area of fire grate in each boiler No. and Description of Safety Valves to each boiler  
Area of each valve Pressure to which they are adjusted Are they fitted with easing gear  
Smallest distance between boilers or uptakes and bunkers or woodwork Mean dia. of boilers Length Material of shell plates  
Thickness Range of tensile strength Are the shell plates welded or flanged Descrip. of riveting: cir. seams  
long. seams Diameter of rivet holes in long. seams Pitch of rivets Lap of plates or width of butt straps  
Per centages of strength of longitudinal joint rivets Working pressure of shell by rules Size of manhole in shell plates  
Size of compensating ring No. and Description of Furnaces in each Boiler Material Outside diameter  
Length of plain part top Thickness of plates crown Description of longitudinal joint No. of strengthening rings bottom  
Working pressure of furnace by the rules Combustion chamber plates: Material Thickness: Sides Back Top Bottom  
Pitch of stays to ditto: Sides Back Top If stays are fitted with nuts or riveted heads Working pressure by rules  
Material of stays Diameter at smallest part Area supported by each stay Working pressure by rules End plates in steam space  
Material Thickness Pitch of stays How are stays secured Working pressure by rules Material of stays  
Diameter at smallest part Area supported by each stay Working pressure by rules Material of Front plates at bottom  
Thickness Material of Lower back plate Thickness Greatest pitch of stays Working pressure of plate by rules  
Diameter of tubes Pitch of tubes Material of tube plates Thickness: Front Back Mean pitch of stays  
Pitch across wide water spaces Working pressures by rules Girders to Chamber tops: Material Depth and thickness of girder at centre Length as per rule Distance apart Number and pitch of stays in each  
Working pressure by rules Steam dome: description of joint to shell % of strength of joint Diameter  
Thickness of shell plates Material Description of longitudinal joint Diameter of rivet holes Pitch of rivets  
Working pressure of shell by rules Crown plates: Thickness How stayed



SUPERHEATER. Type. Date of Approval of Plan. Tested by Hydraulic Pressure to  
Date of Test. Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler  
Diameter of Safety Valve. Pressure to which each is adjusted. Is Easing Gear fitted

IS A DONKEY BOILER FITTED? If so, is a report now forwarded?

SPARE GEAR: State the articles supplied:— 26 bolts & nuts for H.P. & L.P. Lubricum easing joints  
20 bolts & studs with nuts for H.P. & L.P. bearing & thrust covers.  
H.P. & L.P. bearing bushes (2 off each) full set; H.P. & L.P. gland carbon packing  
(9 off) half set; springs for H.P. & L.P. glands (2 off) half set; H.P. & L.P. & ahead  
diaphragm springs (2 off) full set; H.P. & L.P. & ahead diaphragm brass packing  
springs for H.P. & L.P. diaphragms (4 off) half set; main gear wheel bearing bushes  
(2 off) full set; Ast. Centre & Ford bearing bushes for pinions (1 off each) 1/2 set; H.P. & L.P.  
Lubricum Thrust Liners (3 off each) H.P. & L.P. Lubricum Thrust pads (12 off each) full set  
The foregoing is a correct description,

John Brown & Company, Limited.

Manufacturers.

J. Henderson  
Glydebank Secretary.

Dates of Survey while building { During progress of work in shops -- 1921 Feb 17 Mar 23 24 Apr 4 18 21 25 Sept 6 17 19 23 30 Jun 7 July 4.  
During erection on board vessel ---  
Total No. of visits 14.

Is the approved plan of main boiler forwarded herewith

" " " donkey " " "

Dates of Examination of principal parts—Casings 6/5/21 2/4/21 Rotors 23/3/21 Blading 23/3/21 Gearing 20/5/21

Rotor shaft 23/3/21 Thrust shaft ✓ Tunnel shafts ✓ Screw shaft ✓ Propeller ✓

Stern tube ✓ Steam pipes tested ✓ Engine and boiler seatings ✓ Engines holding down bolts ✓

Completion of pumping arrangements ✓ Boilers fixed ✓ Engines tried under steam ✓

Main boiler safety valves adjusted ✓ Thickness of adjusting washers ✓

Material and tensile strength of Rotor shaft S.M. Steel 34 to 38 tons

Identification Mark on Do L.P. 255-222X 4/7/21 HP 283-222X 4/7/21

Material and tensile strength of Pinion shaft Nickel Steel 40 to 45 tons

Identification Mark on Do L.P. 195-222X 4/7/21 HP 203-222X 4/7/21

Material of Wheel shaft S.M. Steel Identification Mark on Do. 255-222X 4/7/21

Material of Thrust shaft ✓ Identification Mark on Do. ✓

Material of Tunnel shafts ✓ Identification Marks on Do. ✓

Material of Screw shafts ✓ Identification Marks on Do. ✓

Material of Steam Pipes ✓ Test pressure ✓

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 Section 49 of the Rules been complied with ✓

Is this machinery a duplicate of a previous case ✓ If so, state name of vessel ✓

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

built under special survey, the materials and workmanship are of good description.

This machinery is to be forwarded to Middlesbrough-Lus.  
The Turbines & Gears above have been efficiently fitted on board and proved satisfactory under working conditions

£ 35 0 0  
The amount of Entry Fee  
Special ... £  
Donkey Boiler Fee ... £  
Travelling Expenses (if any) £

When applied for,

19

When received,

£ 2.9.21/42

A. M. Kennedy  
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW, 12 JUL 1921 TUE. 30 MAY. 1922

Assigned Deferred



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