

REPORT ON MACHINERY.

No. 41220

Received at London Office

Date of writing Report 9.7.21 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. 37369 on the H.S. "Feliciana" (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. 153/20 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

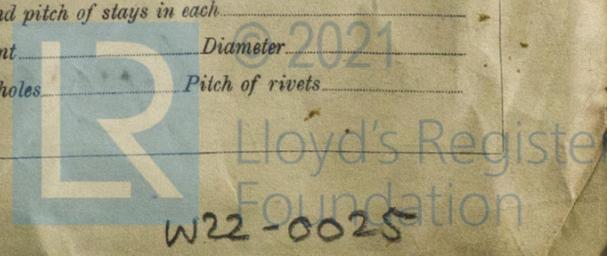
URBINE ENGINES, &c.—Description of Engines Brown Curtis S.P. Grand Turbine No. of Turbines 2
 Diameter of Rotor Shaft Journals, H.P. 7 1/2" L.P. 10" Diameter of Pinion Shafts H.P. 9" L.P. 9" with 3" hole
 Diameter of Journals 9" Distance between Centres of Bearings H.P. 3 1/2" L.P. 3 1/4" Diameter of 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 _____
 No. of Screw Shafts _____ Diameter of same _____ 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. Lubricator easing joints
 20 bolts & studs with nuts for H.P. & L.P. bearing & thrust covers.
 H.P. & L.P. bearing bushes (20 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. diaphragm
 diaphragm springs (2 off) full set; H.P. & L.P. diaphragm brass packing
 Springs for H.P. & L.P. diaphragms (48 off) half set; main gear wheel bearing bushes
 (20 off) full set; Ast. Centre & fore bearing bushes for pinions (1 off each) 1/2 set; H.P. & L.P.
 Lubricator Thrust Liners (30 off each) H.P. & L.P. Lubricator Thrust pads (12 off each) full set
 The foregoing is a correct description,

John Brown & Company, Limited. Manufacturers.

J. Anderson
 Clydebank Secretary.

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

Is the approved plan of main boiler forwarded herewith _____

Is the approved plan of donkey boiler forwarded herewith _____

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. 255-270x 477/21 HP 283-270x 477/21

Material and tensile strength of Pinion shaft Nickel Steel 40 to 45 tons Identification Mark on Do. L.P. 195-200x 477/21 HP 203-200x 477/21

Material of Wheel shaft S.M. Steel Identification Mark on Do. 255-270x 477/21 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 Middlebush-on-Lus. The Turbines & Gears above have been efficiently fitted on board and proved satisfactory under working conditions.*

The amount of Entry Fee	£ 35 0 0	When applied for,	19
Special	£	When received,	19
Donkey Boiler Fee	£	2.9.21	
Travelling Expenses (if any)	£		

A.M. Kenned *Wm. Crovie*
 Engineer Surveyor to Lloyd's Register of Shipping.

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

Assigned Deferred

1-5 H.P. Ast. Board Motor fitted in Ast. Board Space. Starboard Side Shellin. Deck.

Glasgow