

REPORT ON MACHINERY.

No. 8405

Report 16 Oct 1920 When handed in at Local Office 19 Port of Belfast
 Survey held at Belfast Date, First Survey 4 Sep 1919 Last Survey 7 Oct 1920
 on the S.S. Bonheur (Number of Visits 76)
 Gross 5327 Tons
 Net 3170
 4. Lupton Built at Belfast By whom built Harland & Wolff L³ When built 1920
 made at Belfast By whom made - when made -
 made at - By whom made - when made -
 ed Horse Power - Owners Liverpool Branch Ryer Plate Port belonging to Liverpool
 orse Power at Full Power 2900 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

NE ENGINES, &c.—Description of Engines Single Screw Double Reduction Gears No. of Turbines 2
 of Rotor Shaft Journals, H.P. 4 1/2 L.P. 4 1/2 Diameter of Pinion Shaft 4 1/2 x 11"
 of Journals 4 1/2 x 11" Distance between Centres of Bearings 2' 7 1/4" + 2' 4 1/4" + 5' 8" Diameter of Pitch Circle 7' 2 1/4" + 17' 7 1/4"
 Wheel Shaft 16" Distance between Centres of Bearings 6' 8 1/2" Diameter of Pitch Circle of Wheel 5' 2' 4 1/4" + 11' 4' 7 1/2"
 Face 14" x 27" Diameter of Thrust Shaft under Collars 15" Diameter of Tunnel Shaft as per rule 13' 7 1/2" as fitted 13' 8 1/2"
 ew Shafts 1 Diameter of same as per rule 15' 12" as fitted 15' 7 1/2" Diameter of Propeller 18' - 0" Pitch of Propeller 16' - 0"
 ides 4 State whether Moveable Yes Total Surface 102 sq ft. Diameter of Rotor Drum, H.P. 26" L.P. 22" + 32" Astern 20"
 at Bottom of Groove, H.P. L.P. Astern Revs. per Minute at Full Power, Turbine 3640 Propeller 78

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.
1 1/2"	2' 4 1/2"	2	2 1/2"	2' - 2 1/2"	2	1 1/2"	2' - 3 1/2"	2
1 1/2"	2' 4 1/2"	1	2 1/2"	2' - 3 1/2"	2	1 1/2"	2' - 3 1/2"	1
1 1/2"	2' - 4 1/2"	1	3 1/2"	2' - 4 1/2"	2	2 1/2"	2' - 1"	1
1 1/2"	2' - 5 1/2"	1	2 1/2"	2' - 10 1/2"	1	3 1/2"	2' - 3"	1
1 1/2"	2' - 5 1/2"	1	2 1/2"	2' - 7 1/2"	1	3 1/2"	2' - 3"	1
2 1/2"	2' - 6 1/2"	1	3 1/2"	3' - 1"	1	3 1/2"	2' - 3"	1
			4 1/2"	3' - 2 1/2"	1			
			4 1/2"	3' - 2 1/2"	1			

size of Feed pumps 2 Weirs 11 1/2" x 8" x 24" 2 Bailer Feeds 6 1/2" x 4 1/2" x 10"
 size of Bilge pumps 1 Lament 8" x 9" x 18" also connection to Ballast & General Pumps
 size of Bilge suction in Engine Room 4" 3 1/2" + Drain P.D. 2 1/2"
 In Holds, &c. 13" - 8 1/2" 1" - 2 1/2"

Bilge Injections / sizes 11" Connected to condenser, or to circulating pump Pump Is a separate Donkey Suction fitted in Engine Room & size 2" - 4 1/2"
 he bilge suction pipes fitted with roses Yes Are the roses in Engine room always accessible Yes
 connections with the sea direct on the skin of the ship Yes Are they Valves or Cocks Both Yes
 fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates Yes Are the Discharge Pipes above or below the deep water line Below
 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
 pes are carried through the bunkers Fore hold suction How are they protected Wood casing
 Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times Yes
 Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges Yes
 crew Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from Engine Room Top

ERS, &c.—(Letter for record S.) Manufacturers of Steel J. Colville & Sons L³
 Heating Surface of Boilers 7668 sq ft Forced Draft fitted Yes No. and Description of Boilers 3—P. Enb. Cylind.
 ng Pressure 200 lbs Tested by hydraulic pressure to 400 lbs Date of test 13-2-20 No. of Certificate 561
 h boiler be worked separately Yes Area of fire grate in each boiler oil fuel No. and Description of Safety Valves to
 ler 2 Direct Sprung Area of each valve 11' 04 sq Pressure to which they are adjusted 205 lbs Are they fitted with easing gear Yes
 t distance between boilers or uptakes and bunkers or woodwork 5 ft Mean dia. of boilers 15' - 6" Length 11' - 6" Material of shell plates Steel
 ss 1 3/4" Range of tensile strength 28-32 tons Are the shell plates welded or flanged No Descrip. of riveting: cir. seams Lap & Double
 ms 1 White Leds Diameter of rivet holes in long. seams 1 1/2" Pitch of rivets 9 1/2" Lap of plates or width of butt straps 20 1/2"
 tages of strength of longitudinal joint rivets 91' 0 plates 84' 5 Working pressure of shell by rules 203 lbs Size of manhole in shell 16" x 12"

compensating ring No. and Description of Furnaces in each Boiler 3 Beighton Material Steel Outside diameter 50 1/2"
 of plain part top 8" crown 5" Description of longitudinal joint Weld No. of strengthening rings 20 1/2" in C.C. bottom 8" thickness of plates bottom 5"
 g pressure of furnace by the rules 200 lbs Combustion chamber plates: Material Steel Thickness: Sides 23 1/2" Back 11 1/2" Top 23 1/2" Bottom 23 1/2"
 f stays to ditto: Sides 9 1/2" x 9 1/2" Back 9 1/2" x 8 1/2" Top 10 1/2" x 8 1/2" Stays are fitted with nuts or riveted heads Nuts Working pressure by rules 205 lbs
 al of stays Steel Diameter at smallest part 2 1/2" x 16" How are stays secured Blasts & wash Working pressure by rules 200 lbs End plates in steam space Steel
 l Steel Thickness 1 1/2" Pitch of stays 22" x 15" Material of Front plates at bottom Steel
 ut smallest part 7 1/2" x 8 1/2" supported by each stay 352 sq Working pressure by rules 209 lbs
 ss 3 1/2" Material of Lower back plate Steel Thickness 27 1/2" Greatest pitch of stays 13 1/2" Working pressure of plate by rules 205 lbs
 er of tubes 2 1/2" Pitch of tubes 4" x 3 1/2" Material of tube plates Steel Thickness: Front 3 1/2" Back 3 1/2" Mean pitch of stays 12 1/2" x 7 1/2"
 across wide water spaces 13 1/2" Working pressures by rules 285 lbs with 1/2" diameter to Chamber tops: Material Steel Depth and
 ss of girder at centre (10" x 8") x 2 Length as per rule 33" Distance apart 10 1/2" Number and pitch of stays in each 3-8 1/2"
 g pressure by rules 212 lbs Steam dome: description of joint to shell V % of strength of joint Diameter
 ss of shell plates Material Description of longitudinal joint Diameter of rivet holes Pitch of rivets
 g 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? *Yes* If so, is a report now forwarded? *Yes*
SPARE GEAR. State the articles supplied:— *See other sheet*

The foregoing is a correct description,

For HARLAND & WOLFF Ltd.

Manufacturer.

F. E. Hebbek

Dates of Survey while building
During progress of work in shops - -
During erection on board vessel - - -
Total No. of visits

4th Sep^r 1919 & 7th Oct^r 1920

76

Is the approved plan of main boiler forwarded herewith

Dates of Examination of principal parts—Casings *4-9-19* Rotors *5* Blading *5-8* Gearing *5-8*
Rotor shaft *3-6-20* Thrust shaft *8-5-20* Tunnel shafts *8-5-20* Screw shaft *8-5-20* Propeller *8-6-20*
Stern tube *8-6-20* Steam pipes tested *4-6-20* Engine and boiler seatings *12-8-20* Engines holding down bolts *8-9*
Completion of pumping arrangements *5-10-20* Boilers fixed *4-4-20* Engines tried under steam *28-9-20*
Main boiler safety valves adjusted *28-9-20* Thickness of adjusting washers *5-12-20*

Material and tensile strength of Rotor shaft *Steel 36.4 Tons*

Identification Mark on Do. *916 Lloy*

Material and tensile strength of Pinion shaft *do 43.2*

Identification Mark on Do. *1059*

Material of Wheel shaft *do* Identification Mark on Do. *1023 W.F.H.*

Material of Thrust shaft *do* Identification Mark on Do. *do*

Material of Tunnel shafts *do* Identification Marks on Do. *do*

Material of Screw shafts *do* Identification Marks on Do. *do*

Material of Steam Pipes *Solid down steel*

Test pressure *600 lbs sq*

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 Section 49 of the Rules been complied with *Yes*

Is this machinery a duplicate of a previous case *No* If so, state name of vessel *✓*

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

The machinery of this vessel has been constructed under Special Survey, and in accordance with the Rules. The workmanship, and the materials are of good description, and on trial in Belfast Lough, the machinery worked satisfactorily. In my opinion it is eligible for record + L.M.C. 10-20, with notation 'Forced Draft' + 'Electric' also 'Fitted for Oil Fuel 10-20, F.P. above 150° Fahr'.

The amount of Entry Fee ... £ *3* : - :
Special ... £ *49* : *10* :
Donkey Boiler Fee ... £ : :
Travelling Expenses (if any) £ : :
When applied for, *11-10-20*
When received, *14/12/1920*

R. L. T. Beveridge
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

TUE. NOV. 24 1920

Assigned

+ L.M.C. 1020

F.P. above 150° Fahr
Forced Draft

CERTIFICATE WRITTEN



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Foundation