

REPORT ON MACHINERY.

No. 81292

27 SEP 1920

Received at London Office

WED. SEP. 29 1920

of writing Report 10 When handed in at Local Office 19 Port of LIVERPOOL

in Survey held at Lytham Date, First Survey 18 Nov 19 Last Survey 13 Sept 1920
 (Number of Visits 13)

g. Book. on the S.S. 'Briarfield' Tons { Gross 446
 Net 172

Master T.R. Clugston Built at Lytham By whom built Lytham Shipt. & Eng. Co. When built 1920

Engines made at Lytham By whom made J^c when made J^c

Motors made at J^c By whom made J^c when made J^c

Registered Horse Power ✓ Owners Zillah Shipping & Carrying Co. Port belonging to Liverpool

Net Horse Power as per Section 28 88 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted yes

ENGINES, &c.—Description of Engines Vertical Triple No. of Cylinders 3 No. of Cranks 3

No. of Cylinders 14, 22, 38 Length of Stroke 24" Revs. per minute 7.2 Dia. of Screw shaft 7.92 Material of screw shaft steel
 as fitted 8

Is the screw shaft fitted with a continuous liner the whole length of the stern tube yes Is the after end of the liner made water tight

the propeller boss yes If the liner is in more than one length are the joints burned ✓ 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 insoluble in water and non-corrosive ✓ If two

shafts are fitted, is the shaft lapped or protected between the liners ✓ Length of stern bush 3'-2"

Dia. of Tunnel shaft 6.8 Dia. of Crank shaft journals 7.2 Dia. of Crank pin 7/4 Size of Crank webs 11 x 4 3/4 Dia. of thrust shaft under

bars 7/4 Dia. of screw 9-0 Pitch of Screw 10-6 No. of Blades 4 State whether moveable yes Total surface 260'

No. of Feed pumps 2 Diameter of ditto 2 1/2 Stroke 12 Can one be overhauled while the other is at work yes

No. of Bilge pumps 2 Diameter of ditto 2 1/2 Stroke 12 Can one be overhauled while the other is at work yes

No. of Donkey Engines 2 Sizes of Pumps 6 1/2 x 6 1/2 x 8 ballast No. and size of Suctions connected to both Bilge and Donkey pumps
5 1/2 x 3 1/2 x 6 feed.

Engine Room one 2 1/4, two 2" In Holds, &c. one 2 1/2, 2 @ 2" fore hold.

No. of Bilge Injections 1 sizes 3 1/2" Connected to condenser, or to circulating pump yes Is a separate Donkey Suction fitted in Engine room & size yes, 2 1/2"

Are all the bilge suction pipes fitted with roses yes Are the roses in Engine room always accessible yes Are the sluices on Engine room bulkheads always accessible none

Are all connections with the sea direct on the skin of the ship yes Are they Valves & Cocks yes

Are they 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 yes

Are they 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

How are they protected ✓

Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times yes

Are the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges yes

Is the Screw Shaft Tunnel watertight none Is it fitted with a watertight door ✓ worked from ✓

BOILERS, &c.—(Letter for record S.) Manufacturers of Steel Messrs Beardmore & Co.

Total Heating Surface of Boilers 1520 Is Forced Draft fitted no No. and Description of Boilers one, cylindrical

Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs Date of test 27.7.20 No. of Certificate 2135

Can each boiler be worked separately ✓ Area of fire grate in each boiler 490' No. and Description of Safety Valves to

each boiler 2, spring loaded Area of each valve 5.930" Pressure to which they are adjusted 180 lbs Are they fitted with easing gear yes

Smallest distance between boilers or uptakes and bunkers or woodwork 20" Mean dia. of boilers 13' Length 10' Material of shell plates M.S.

Thickness 1/16" Range of tensile strength 28-32 Are the shell plates welded or flanged no Descrip. of riveting: cir. seams D.R. lap

long. seams T.R. double butt Diameter of rivet holes in long. seams 1/8 Pitch of rivets 8 Lap of plates or width of butt straps 1-4 1/4

Percentages of strength of longitudinal joint rivets 86 1/2 Working pressure of shell by rules 182 Size of manhole in shell 16 x 12
 plate 86

Size of compensating ring 9 x 1 No. and Description of Furnaces in each boiler 3 plain Material M.S. Outside diameter 3'-3"

Length of plain part top 6-6" bottom 6-5" Thickness of plates crown 3/4" bottom 3/4" Description of longitudinal joint weld No. of strengthening rings one part

Working pressure of furnace by the rules 190 Combustion chamber plates: Material M.S. Thickness: Sides 1/16 Back 5/8 Top 1/16 Bottom 1/16

Pitch of stays to ditto: Sides 9/4 x 9/2 Back 9/4 x 8/4 Top 9/4 x 9/2 If stays are fitted with nuts or riveted heads nuts Working pressure by rules 182, 144

Material of stays M.S. Area at smallest part 1.79 Area supported by each stay 880" Working pressure by rules 184 End plates in steam space:

Material M.S. Thickness 1/8 Pitch of stays 18 1/4" How are stays secured 2 nuts & washers Working pressure by rules 180 Material of stays M.S.

Area at smallest part 7.07 Area supported by each stay 3300" Working pressure by rules 220 Material of Front plates at bottom M.S.

Thickness 3/4 Material of Lower back plate M.S. Thickness 13/16 Greatest pitch of stays as per plan Working pressure of plate by rules 184

Diameter of tubes 3/2 Pitch of tubes 4 3/4 x 6 5/8 Material of tube plates M.S. Thickness: Front 3/4 Back 3/4 Mean pitch of stays 10 3/8

Pitch across wide water spaces 14" Working pressures by rules 184 Girders to Chamber tops: Material M.S. Depth and

Thickness of girder at centre 8 3/4 x two 3/4 Length as per rule 31 5/8 Distance apart 9 1/2 Number and pitch of stays in each two, 9 1/4"

Working pressure by rules 180 Steam dome: description of joint to shell ✓ % of strength of joint

Diameter ✓ Thickness of shell plates ✓ Material ✓ Description of longitudinal joint ✓ Diam. 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? *No*

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:— *eccentric strap, pair bottom end braces; set of coupling bolts & of bottom & top end & main bearing bolts; set of air, circulating, feed & bilge pump valves; 12 condenser tubes; 6 boiler tubes; assorted iron & bolts.*

THE LYTHAM SHIPBUILDING AND ENGINEERING COMPANY, LIMITED.

The foregoing is a correct description,

W. Linsley
DIRECTOR
Manufacturer.

Dates of Survey while building: During progress of work in shops -- *1919. Nov 18. Dec 9.* 1920 *Apr 14. 26. May 17. Jun 3. July 2. 15. 27. Aug 6. 26. Sept 9. 13.*
During erection on board vessel --
Total No. of visits *13*

Is the approved plan of main boiler forwarded herewith *4/0*
" " " donkey " "

Dates of Examination of principal parts—Cylinders *3.6.20* Slides *6.8.20* Covers *17.5.20* Pistons *18.11.19* Rods *18.11.19*
Connecting rods *18.11.19* Crank shaft *3.6.20* Thrust shaft *3.6.20* Tunnel shafts Screw shaft *2.6.20* Propeller *2.6.20*
Stern tube *26.4.20* Steam pipes tested *8.9.20* Engine and boiler seatings *15.7/6.8.20* Engines holding down bolts *8.9.20*
Completion of pumping arrangements *8.9.20* Boilers fixed *6.8.20* Engines tried under steam *13.9.20*
Completion of fitting sea connections *17.5.20* Stern tube *17.5.20* Screw shaft and propeller *2.7.20*
Main boiler safety valves adjusted *13.9.20* Thickness of adjusting washers *P 11/32 3/8 S.*
Material of Crank shaft *M.S.* Identification Mark on Do. *1349* Material of Thrust shaft *M.S.* Identification Mark on Do. *1342*
Material of Tunnel shafts Identification Marks on Do. Material of Screw shafts *M.S.* Identification Marks on Do. *1343*
Material of Steam Pipes *solid drawn copper* Test pressure *360 lbs.*

Is an installation fitted for burning oil fuel *No* 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 duplicate of a previous case *Yes* If so, state name of vessel *S.S. 'Glenagary'.*

General Remarks (State quality of workmanship, opinions as to class, &c. *The machinery of this vessel has been built under Special Survey. The materials & workmanship are good. Engines & boilers fitted on board in an efficient manner & tried under steam with satisfactory results, & are now eligible for record of + L.M.C. 9.20*

It is submitted that this vessel is eligible for THE RECORD + L.M.C. 9.20

Hell
#10/20
GR

MACHINERY DEPT.
WRITTEN
29.9.20

The amount of Entry Fee ... £ / : :
Special ... £ *13* : *4* : :
Donkey Boiler Fee ... £ : :
Travelling Expenses (if any) £ *9* : *10* : :

When applied for, *10*
When received, *1/11/19.20*

S. Townsend & *J.H. Smith*
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned

L No 69.20 M.

When fee is paid



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