

Rpt. 4.

## REPORT ON MACHINERY

Apr. 20 1852.

No. 41073

TUE. 20 OCT. 1923

Date of writing Report 2. 5

1921 When handed in at Local Office 2. 5

Received at London Office

No. in Survey held at

Reg. Book.

on the

Glasgow - Harport  
S/S Cynthia

1921 Port of Glasgow

Date, First Survey 27. 1. 1921

Last Survey 28. 9. 1923

(Number of Visits 39.)

Master

Built at Leipsic

By whom built

Monmouth SBC Ltd S/S

Tons Gross 3442

Net 1984

When built 1923

Engines made at

Glasgow

By whom made

Fairfield SBC Ltd No 611

when made 1921

Boilers made at

Glasgow

By whom made

Fairfield SBC Ltd No 611

when made 1921

Registered Horse Power

Owners Harris &amp; Brown Ltd

Nom. Horse Power as per Section 28 338

Is Refrigerating Machinery fitted for cargo purposes No

Port belonging to

London

Is Electric Light fitted Yes

ENGINES, &amp;c.—Description of Engines

Triple expansion

Dia. of Cylinders 23 1/2 - 38 - 62

Length of Stroke 42

Revs. per minute 73

No. of Cylinders 3

No. of Cranks 3

Is the screw shaft fitted with a continuous liner the whole length of the stern tube Yes

Dia. of Screw shaft

as per rule 13.05

as fitted 13 3/8

Material of

screw shaft S

in the propeller boss Yes

If the liner is in more than one length are the joints burned Yes

Is the after end of the liner made water tight

between the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive Yes

If the liner does not fit tightly at the part

liners are fitted, is the shaft lapped or protected between the liners

Dia. of Tunnel shaft as per rule 11.58

as fitted 11 3/4

Dia. of Crank shaft journals as per rule 12.16

as fitted 12 3/8

Dia. of Crank pin 12 3/4

Size of Crank web 4 1/2 x 10 1/2

of thrust shaft under

Length of stern bush 4.10

collars 12 3/8

Dia. of screw 16.0

Pitch of Screw 15.3

No. of Blades 4

State whether moveable No

Total surface 804

No. of Feed pumps 2

Diameter of ditto 3 1/2

Stroke 21

Can one be overhauled while the other is at work Yes

No. of Bilge pumps 2

Diameter of ditto 3 1/2

Stroke 21

Can one be overhauled while the other is at work Yes

No. of Donkey Engines 3

Sizes of Pumps

1. 8" dia. 6" stroke

2. 6" dia. 6" stroke

3. 4" dia. 6" stroke

No. and size of Suctions connected to both Bilge and Donkey pumps

Separate pumping installation in fore hold

In Engine Room with 3 1/2" E.R. 3.3" dia. 15" stroke

Daphne pump 7 1/2" x 4 1/2" x 6"

Suctions: pump room 4" (two) with separate pump in engine room

No. of Bilge Injections 1

sizes 8

Connected to condenser, or to circulating pump Yes

Is a separate Donkey Suction fitted in Engine room size 3 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 Yes

Are all connections with the sea direct on the skin of the ship Yes

Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates Yes

Are they each fitted with a Discharge Valve always accessible on the plating of the vessel Yes

What pipes are carried through the bunkers None

Are they Valves or Cocks Both

Are the Discharge Pipes above or below the deep water line Below

Are the Blow Off Cocks fitted with a spigot and brass covering plate Yes

How are they protected Yes

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 Yes

Is it fitted with a watertight door Yes

BOILERS, &amp;c.—(Letter for record S)

Manufacturers of Steel

Stewart &amp; Lloyd &amp; Lanchester Steel Co

Machinery aft

worked from

Total Heating Surface of Boilers 49524

Forced Draft fitted Yes

No. and Description of Boilers 1 Single ended

Working Pressure 180

Tested by hydraulic pressure to 320

Date of test 1. 4. 21

No. of Certificate 15771

No. and Description of Safety Valves to 15773

Can each boiler be worked separately Yes

Area of fire grate in each boiler 62.5

Pressure to which they are adjusted 185 lbs

Are they fitted with easing gear Yes

each boiler 2 Double Spring

Area of each valve 9.96

Smallest distance between boilers or uptakes and bunkers or woodwork 2.0

Thick. dia. of boilers 15.0

Length 11.6

Material of shell plates S

Thick. 1 1/4

Range of tensile strength 29/32

Are the shell plates welded or flanged No

Descrip. of riveting: cir. seams DR

long. seams TR. DBS

Diameter of rivet holes in long. seams 1 1/4

Pitch of rivets 8 1/2

Lap of plates or width of butt straps 18 1/2

Per centages of strength of longitudinal joint rivets 88.84

plate 86

Working pressure of shell by rules 180

Size of manhole in shell 16 x 12

Size of compensating ring None

No. and Description of Furnaces in each boiler 3 Corrugated

Length of plain part top

bottom

Thickness of plates crown 9 1/16

Description of longitudinal joint Weld

Material S

Outside diameter 3.10

Working pressure of furnace by the rules 190

Combustion chamber plates: Material S

Thickness: Sides 7/8

Back 9/16

Pitch of stays to ditto: Sides 8 1/8 x 8 1/2

Back 7 1/8 x 7 1/2

Top 8 1/8 x 7 1/2

If stays are fitted with nuts or riveted heads DN

Working pressure by rules 190

Material of stays S

Area at smallest part 1.45

Area supported by each stay 64.13

Working pressure by rules 187

End plates in steam space: Material S

Thick. 1 1/2

Pitch of stays 19.20

How are stays secured DN

Working pressure by rules 189

Material of stays S

Area at smallest part 8.6

Area supported by each stay 380

Working pressure by rules 194

Material of Front plates at bottom S

Thick. 1 1/2

Diameter of tubes 2 1/2

Pitch of tubes 3 1/4 x 3 1/4

Material of tube plates S

Thickness: Front 1 1/8

Back 2 3/32

Mean pitch of stays 7 1/2

Pitch across wide water spaces 13 1/2

Working pressures by rules 183

Girders to Chamber tops: Material S

Depth and thickness of girder at centre 8 x 3/4 x 21

Working pressure by rules 192

Steam dome: description of joint to shell

Distance apart 7 3/4

Number and pitch of stays in each 3 at 8 1/8"

Diameter Yes

Thickness of shell plates

Material Yes

Description of longitudinal joint

Diam. of rivet holes

How stayed

Pitch of rivets Yes

Working pressure of shell by rules

Crown plates

Thickness

How stayed

SUPERHEATER. Type

Date of Approval of Plan

Tested by Hydraulic Pressure to

Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler

Pressure to which each is adjusted

Date of Test

Safety Valve

Is Easing Gear fitted

W1358-0027

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Lloyd's Register

Foundation

IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:—

1 Propeller. 1 set coupling bolts & nuts. Two main bearing bolts & nuts. 2 Con. rod bolts & nuts. 2 Piston rod bolts & nuts. 2 feed & bilge pump bolts & nuts. 1 set mounted bolts & nuts. Condenser tubes & ferrules. Assorted bar iron. 2 Safety valves & springs. 6 pump ring studs. Two main & two aux. cheek valves. 1 set aux. feed pump & aux. springs. piston & bucket rings. 1 set gradual pressure pump springs & nuts. 1 set aux. pump valves. 4 sets of nipples for burners.

The foregoing is a correct description,

AND ENGINEERING CO., LTD.

R. Thachar

ASSISTANT MANAGER.

Manufacturer.

Dates of Survey while building  
During progress of work in shops -- 1921. Jan 27. Feb 10. 15. 22. 28 Mar 3. 7. 11. 16. 17. 21. 23. 24. Apr 1. 5. 7. 8. 11. 13. 18. 25  
During erection on board vessel -- 1921. May 11. June 9. Sept 7. 12. Nov 9. 22. Dec 18. 19. 1922 Feb 10. 1923 Sept 10.  
Total No. of visits 39. Is the approved plan of main boiler forwarded herewith Yes

Dates of Examination of principal parts—Cylinders 1. 4. 21 Slides 7. 14. 21 Covers 7. 14. 21 Pistons 21. 3. 21 Rods 1. 4. 21  
Connecting rods 1. 4. 21 Crank shaft 17. 3. 21 Thrust shaft 11. 3. 21 Tunnel shafts 21. 3. 21 Screw shaft 21. 3. 21 Propeller 21. 3. 21  
Stern tube 23. 3. 21 Steam pipes tested 22. 11. 21. Engine and boiler seatings 11. 5. 21. Engines holding down bolts 18. 6. 21  
Completion of pumping arrangements 22. 11. 21. Boilers fixed 9. 11. 21. Engines tried under steam 28. 9. 23  
Completion of fitting sea connections 9. 6. 21. Stern tube 12. 9. 21. Screw shaft and propeller 18. 10. 21.  
Main boiler safety valves adjusted 10. 2. 22 & 28. 9. 23 Thickness of adjusting washers Port Boiler 8 1/2" P 7/16" St. Boiler P 2 1/2" S 2 1/2"  
Material of Crank shaft S Identification Mark on Do. LLOYDS WGM 611 Material of Thrust shaft S Identification Mark on Do. LLOYDS WGM 611  
Material of Tunnel shafts S Identification Marks on Do. 611 Material of Screw shafts S Identification Marks on Do. 611  
Material of Steam Pipes Mild Steel Test pressure 540 lbs per sq. in.

Is an installation fitted for burning oil fuel Yes

Is the flash point of the oil to be used over 150°F. No Yes 150°F

Have the requirements of Section 49 of the Rules been complied with Yes

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

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

These Engines & Boilers have been built under Special Survey, in accordance with the approved plans & the workmanship & material are of good quality. When securely fitted on board, & satisfactorily tried under steam, will be entitled in my opinion to the record of \*LMC with date.

These Engines & Boilers have been shipped to Belfast, at which port they will be fitted on board.

These Engines & Boilers have now been fitted on board & efficiently secured. Boilers have been examined under steam & safety valves adjusted. Pump having been purchased. Machinery & boilers have been opened out & examined. Found placed in dry dock. Screw shaft drawn & examined, sea con. opened up & examined see des. 21. 8. 23. On trials Machinery was found satisfactory & in our opinion vessel is eligible to Record of \*LMC 9. 23. Screw shaft 28. 9. 23.

The amount of Entry Fee ... £ 5 : : : When applied for.  
due 26. 11. 0 { £ 75 : 14 : 3. 5 19 21  
due 15. 3. 0 {  
Donkey Boiler Fee ... £ : : : When received.  
Travelling Expenses (if any) £ 2 : 17 : 29. 6 19 21

Committee's Minute GLASGOW 3-MAY 1921

Assigned Deferred.

W. Gordon-Mitchell

Engineer Surveyor to Lloyd's Register of Shipping.

TUE OCT. 9 1923

+ LMC 9. 23

Fitted for oil fuel 9. 23

F.P. above 150°F