

# REPORT ON MACHINERY.

Received at London Office

FRI 12 22 1919

Date of writing Report

19

When handed in at Local Office

25. 8. 1919

Port of Sunderland

No. in Survey held at  
Reg. Book.

Sunderland

Date, First Survey

23 Aug '18

Last Survey

22 August 1919

(Number of Visits

59)

Gross

2429

Net

1432

Master

Laggalo

Built at

Sunderland

By whom built

When built

1919

Engines made at

Sunderland

By whom made

Richardsons Westgarth & Co. Ltd. (No. 2147)

when made

1919

Boilers made at

"

By whom made

"

"

"

when made

1919

Registered Horse Power

Owners

Ellerman Lines, Ltd.

Port belonging to

Liverpool

Nom. Horse Power as per Section 28

266

Is Refrigerating Machinery fitted for cargo purposes

No.

Is Electric Light fitted

Yes

## ENGINES, &c.—Description of Engines

Triple expansion

No. of Cylinders

3

No. of Cranks

3

Dia. of Cylinders

22-36-59

Length of Stroke

39"

Revs. per minute

70

Dia. of Screw shaft

as per rule 12.45  
as fitted 13

Material of screw shaft

Iron

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

in the propeller boss

Yes

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

Yes

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

Yes

If two

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

Yes

Length of stern bush

4-9

Dia. of Tunnel shaft

as per rule 10.85  
as fitted 11

Dia. of Crank shaft journals

as per rule 11.39  
as fitted 11.75

Dia. of Crank pin

12

Size of Crank webs

22 1/2 x 7 1/4

Dia. of thrust shaft under collars

12"

Dia. of screw

15-9

Pitch of Screw

15-3

No. of Blades

4

State whether moveable

No

Total surface

77

申

No. of Feed pumps

2

Diameter of ditto

3

Stroke

24"

Can one be overhauled while the other is at work

Yes

No. of Bilge pumps

2

Diameter of ditto

3 1/2

Stroke

24"

Can one be overhauled while the other is at work

Yes

No. of Donkey Engines

3

Sizes of Pumps 1 @ 10 x 12 1/2 x 18; 2 @ 8 x 6 x 15

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

In Engine Room

4 @ 3 1/2"

T.W.-1 @ 2 1/2"

In Holds, &c.

No. 1 - 2 @ 3; No. 2 - 2 @ 3; No. 3 (aft) 2 @ 3;

No. of Bilge Injections

1 size 9 1/2"

Connected to condenser, or to circulating pump

C.P.

Is a separate Donkey Suction fitted in Engine room & size

Yes - 3"

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

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

Yes

Are they Valves or Cocks

Both

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

below

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

What pipes are carried through the bunkers

Forward hold joipes

How are they protected

Under limber boards

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

worked from Upper platform

## BOILERS, &c.—(Letter for record

S)

Manufacturers of Steel John Spencer Sons, Ltd. and David Colville & Sons, Ltd

Total Heating Surface of Boilers

4500 sq ft

Is Forced Draft fitted

No

No. and Description of Boilers

Two single ended Marine

Working Pressure

180

Tested by hydraulic pressure to

360

Date of test

12-2-19

No. of Certificate

3534

Can each boiler be worked separately

Yes

Area of fire grate in each boiler

62 sq ft

No. and Description of Safety Valves to

each boiler

Smallest distance between boilers or uptakes and bunkers or woodwork

26"

Area of each valve

8-29 sq in

Pressure to which they are adjusted

185

Are they fitted with easing gear

Yes

Thickenss

1 1/4"

Range of tensile strength

28-32 tons

Are the shell plates welded or flanged

Yes

Descrip. of riveting: cir. seams D.R. laps.

long. seams

I.R. D.B.

Diameter of rivet holes in long. seams

1 5/16"

Pitch of rivets

9"

Lap of plates or width of butt straps

19 1/2"

Material of shell plates

Steel

Per centages of strength of longitudinal joint

rivets 88.59  
plate 85.41

Working pressure of shell by rules

182

Size of manhole in shell

16 x 12"

end

16 x 12"

Size of compensating ring

flanged

No. and Description of Furnaces in each boiler

Three Dighton

Material

Steel

Outside diameter

4-0 15/16"

Length of plain part

top

Thickness of plates

3 1/4"

Description of longitudinal joint

Welded

No. of strengthening rings

1

Working pressure of furnace by the rules

186

Combustion chamber plates: Material

Steel

Thickness: Sides

11/16"

Back

32

Top

11/16"

Bottom

11/16"

Working pressure by rules

185

Pitch of stays to ditto: Sides

9 x 9 3/4"

Back

9 1/2 x 9 5/8"

Top

9 x 9 3/4"

If stays are fitted with nuts or riveted heads

Nuts

Material of stays

Steel

Area at smallest part

2.03 sq ft

Area supported by each stay

91.44 sq ft

Working pressure by rules

200

End plates in steam space:

Material

Steel

Thickness

1 3/8"

Pitch of stays

22 x 21"

How are stays secured

D.N.+W.

Working pressure by rules

184

Material of stays

Steel

Area at smallest part

8.48 sq ft

Area supported by each stay

462 sq ft

Working pressure by rules

191

Material of Front plates at bottom

Steel

Thickenss

1 3/16"

Material of Lower back plate

Steel

Thickness

1 5/16"

Greatest pitch of stays

14 1/2 x 9 7/8"

Working pressure of plate by rules

197

Diameter of tubes

3 1/4"

Pitch of tubes

4 1/2 x 4 3/8"

Material of tube plates

Steel

Thickness: Front

13/16"

Back

1 3/16"

Mean pitch of stays

10"

Pitch across wide water spaces

14 1/4"

Working pressures by rules

262

Girders to Chamber tops: Material

Steel

IS A DONKEY BOILER FITTED? No

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:— Two Connecting rod top & bottom end bolts & nuts, two main bearing bolts, one set of coupling bolts, one set of feed & bilge pump valves, iron & bolts of various sizes. One Propeller.

The foregoing is a correct description,  
FOR RICHARDSONS, WESTGARTH & CO., LTD.

Richard H. Russell Manufacturer.

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

1918 Aug 22, Sep 2, 12, 17, 24, 28, Oct 4, 22, 25, Dec 3, 5, 6, 9, 11, 13, 14, 17, 20, 21, 31, Jan 10, 15, 19, 20, 25  
Feb 1, 5, 8, 12, 18, 20, Mar 5, 9, 14, 24, Apr 2, 8, 9, 25, 30, May 1, 2, 25, 29, 31, Jun 2, 20, 25, June 1, 20  
July 20, Aug 14, 19, 22 (59)

Is the approved plan of main boiler forwarded herewith Yes

Dates of Examination of principal parts—Cylinders 31-12-18 Slides 15-1-19 Covers 5-12-18 Pistons 5-12-18 Rods 13-12-18  
Connecting rods 15-1-19 Crank shaft 4-10-18 Thrust shaft 25-1-19 Tunnel shafts 5-3-19 Screw shaft 3-2-19 Propeller 13-2-19  
Stern tube 30-4-19 Steam pipes tested 13-5-19 Engine and boiler seatings 2-4-19 Engines holding down bolts 20-5-19  
Completion of pumping arrangements 21-5-19 Boilers fixed 14-5-19 Engines tried under steam 28-5-19  
Completion of fitting sea connections 2-4-19 Stern tube 2-5-19 Screw shaft and propeller 5-5-19  
Main boiler safety valves adjusted 28-5-19 Thickness of adjusting washers Port boiler - P 7/16, S 3/8, S boiler - P 7/16, S 3/8  
Material of Crank shaft Steel Identification Mark on Do. 6029.A.B Material of Thrust shaft Steel Identification Mark on Do. 2147.E.W.R.  
Material of Tunnel shafts Iron Identification Marks on Do. 2147.E.W.R. Material of Screw shafts Iron Identification Marks on Do. 2147.E.W.R.  
Material of Steam Pipes Steel-laps welded Test pressure 540 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 Standard "H" type

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

The Materials and Workmanship are good.  
The Machinery has been constructed under special survey and is eligible in my opinion for classification, and the record L.M.C. 8, 19.

It is submitted that  
this vessel is eligible for  
THE RECORD + L.M.C. 8.19.

AWD  
15/9/19  
ARH

The amount of Entry Fee ... £ 53 : 19 - 4 When applied for, 21.8.1919  
Special ... £ : : :  
Donkey Boiler Fee ... £ : : :  
Travelling Expenses (if any) £ : : : 20/9/1919

Ed. W. Hutton  
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned

FRI. 19 SEP. 1919

+ L.M.C. 8.19



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