

## REPORT ON MACHINERY

No. 27445

Received at London Office

Date of writing Report

19

When handed in at Local Office

8 MAR 1919

Port of

Sunderland

No. in Survey held at

Sunderland

Date, First Survey

12 Jul 18

Last Survey

5 March 1919

Reg. Book.

536 on the new steel S/S (HARSEAGULL) "HINDUSTAN"

(Number of Visits 56)

Gross 5175 52/7  
Net 3242

Master

Marshall

Built at

Sunderland

By whom built

Short Bros Ltd (S/S No 403)

When built

1919

Engines made at

Sunderland

By whom made

North Eastern Marine Eng Co Ltd (No 2372)

when made

1919

Boilers made at

Sunderland

By whom made

North Eastern Marine Eng Co Ltd (No 2372)

when made

1919

Registered Horse Power

Owners The Shipping Controller, Hindustan S.S. Co Ltd (Common Transport) belonging to London Newcastle

Nom. Horse Power as per Section 28

517

Is Refrigerating Machinery fitted for cargo purposes

no

Is Electric Light fitted

yes

ENGINES, &amp;c.—Description of Engines

Triple expansion

No. of Cylinders 3

No. of Cranks 3

Dia. of Cylinders

27-4 4-75

Length of Stroke 48

Revs. per minute 75

Dia. of Screw shaft

as per rule 15-29  
as fitted 1-52

Material of (Ingot steel)

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

Is 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

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

yes

Length of stern bush 5-0 1/2

Dia. of Tunnel shaft

as per rule 13-32  
as fitted 1-1 1/2

Dia. of Crank shaft journals

as per rule 1-4  
as fitted 1-2 1/2

Dia. of Crank pin 1-2 1/2

Size of Crank webs 1-10 1/2 x 9

Dia. of thrust shaft under

Diameters

1-2 3/4

Dia. of screw 14-6

Pitch of Screw 16-6

No. of Blades 4

State whether moveable

no

Total surface

98-2 sq ft

No. of Feed pumps 2

Diameter of ditto 4

Stroke 2-0

Can one be overhauled while the other is at work

yes

No. of Bilge pumps 2

Diameter of ditto 4

Stroke 2-0

Can one be overhauled while the other is at work

yes

No. of Donkey Engines 3

Sizes of Pumps

10 1/2 x 14 x 24

20 x 9 1/2 x 18

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

Engine Room

4 @ 3 1/2

In Holds, &amp;c. No 1 hold - 2 @ 3 1/2. No 2 hold - 2 @ 3 1/2.

No. of Bilge Injections 1

size 13

Connected to condenser, or to circulating pump

b.p.

Is a separate Donkey Suction fitted in Engine room &amp; size

yes, 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

none

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

main below, all others above

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 suction

How are they protected

under timber 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 top platform

MILERS, &amp;c.—(Letter for record)

S

Manufacturers of Steel

John Spencer &amp; sons Ltd.

Total Heating Surface of Boilers

7668 sq ft

Is Forced Draft fitted

yes

No. and Description of Boilers

three single ended marine

Working Pressure

180

Tested by hydraulic pressure to

360

Date of test

18, 23 &amp; 24-1-19

No. of Certificate

3525, 8 &amp; 9

Can each boiler be worked separately

yes

Area of fire grate in each boiler

63 sq ft

No. and Description of Safety Valves to

In each boiler

two, direct spring

Area of each valve

9-6 sq in

Pressure to which they are adjusted

185

Are they fitted with easing gear

yes

Smallest distance between boiler or uptakes and bunkers or woodwork

1-8

Mean dia. of boilers

15-6

Length

11-8 5/16

Material of shell plates

steel

Thickness

1 1/4

Range of tensile strength

28-32 tons

Are the shell plates welded or flanged

no

Descrip. of riveting: cir. seams

DR

1. seams

ABS. TR

Diameter of rivet holes in long. seams

1 1/2

Pitch of rivets

9 1/8

Lap of plates or width of butt straps

1-8 3/8

Percentages of strength of longitudinal joint

rivets 85-5

plate 86-4

Working pressure of shell by rules

182

Size of manhole in shell

16 x 12

No. of compensating ring

flanged

No. and Description of Furnaces in each boiler

3

Deighton

Material

steel

Outside diameter

4-2 3/16

Length of plain part

top 19  
bottom 32

Thickness of plates

crown 19  
bottom 32

Description of longitudinal joint

welded

No. of strengthening rings

yes

Working pressure of furnace by the rules

188

Combustion chamber plates: Material

steel

Thickness: Sides

25/32

Back

25/32

Top

25/32

Bottom

25/32

Pitch of stays to ditto: Sides

10 3/8 x 10 3/8

Back

11 7/8 x 9 1/2

Top

10 3/8 x 10 3/8

If stays are fitted with nuts or riveted heads

nuts

Working pressure by rules

180

Material of stays

steel

Area at smallest part

2-36 sq in

Area supported by each stay

112-6 sq in

Working pressure by rules

187

End plates in steam space:

Material

steel

Thickness

1 1/2

Pitch of stays

21 x 21 3/4

Area at smallest part

7-98 sq in

Area supported by each stay

456 sq in

Working pressure by rules

182

Material of Front plates at bottom

steel

Thickness

3/32

Material of Lower back plate

steel

Thickness

7/8

Greatest pitch of stays

13 3/4 x 9 1/2

Working pressure of plate by rules

190

Diameter of tubes

2 3/4

Pitch of tubes

4 x 3 7/8

Material of tube plates

S

Thickness: Front

3/32

Back

3/4

Mean pitch of stays

9 13/16

Pitch across wide water spaces

1-1 5/8

Working pressures by rules

181

Girders to Chamber tops: Material

steel

Depth and

thickness of girder at centre

2 @ 9 1/2 x 7/8

Length as per rule

35 1/2

Distance apart

10 3/8

Working pressure by rules

180

Steam dome: description of joint to shell

none

% of strength of joint

yes

Diameter

Thickness of shell plates

Material

Description of longitudinal joint

Diam. of rivet holes

How stayed

No. 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

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

Is Easing Gear fitted

Foundation

Foundation

Foundation

Foundation

Foundation

Foundation

Foundation

Foundation

IS A DONKEY BOILER FITTED? no

If so, is a report now forwarded? ✓

Rpt. 13.

SPARE GEAR. State the articles supplied:— Two connecting rod top and bottom end bolts and nuts two main bearing bolts, one set of coupling bolts, one set of feed and bilge pump valves, iron and bolts of various sizes, one propeller and one propeller shaft.

Port of

No. in Reg. Book 636 in

Owners

Yard No.

DESCRIP

One

360 m

Capacity

Where is

Position

Position

The foregoing is a correct description,

FOR THE NORTH EASTERN MARINE ENGINEERING CO. LD

Geo. D. Weir

Manufacturer.

Manager.

Dates of Survey while building { During progress of work in shops -- 1918 Jul 12 Aug 2 Sep 26 11 12 16 17 26 30 Oct 1 4 10 15 18 25 29 31 Nov 14 21 22 23 27 28 Dec 6 10 11 16  
During erection on board vessel -- 24 Jan 6 9 17 18 23 24 25 29 30 31 Feb 1 2 4 6 10 11 12 13 14 17 18 20 22 24 Mar 5  
Total No. of visits (56)

Is the approved plan of main boiler forwarded herewith yes

" " " donkey " " "

Dates of Examination of principal parts—Cylinders 31-10-18 Slides 28-10-18 Covers 3-10-18 Pistons 21-11-18 Rods 23-10-18

Connecting rods 17-9-18 Crank shaft 10-10-18 Thrust shaft 29-10-18 Tunnel shafts 29-12-18 Screw shaft 6-1-19 Propeller 23-11-18

Stern tube 24-12-18 Steam pipes tested 12-2-19 Engine and boiler seatings 16-12-18 Engines holding down bolts 19-2-19

Completion of pumping arrangements 22-2-19 Boilers fixed 17-2-19 Engines tried under steam 18-2-19

Completion of fitting sea connections 20-12-18 Stern tube 30-1-19 Screw shaft and propeller 1-2-19

Main boiler safety valves adjusted 18-2-19 Thickness of adjusting washers Port-11-P 3/16 S 3/4 Cent-11-P 5/16 S 3/4 Star-11-P 3/16 S 3/4

Material of Crank shaft 1 steel Identification Mark on Do. 3607 N.W.C. Material of Thrust shaft 1 steel Identification Mark on Do. 3607 N.W.C.

Material of Tunnel shafts 1 steel Identification Marks on Do. 3607 N.W.C. Material of Screw shafts 1 steel Identification Marks on Do. 3607 N.W.C.

Material of Steam Pipes Lapwelded wrought iron Test pressure 540 pounds per sq. in.

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 "B" type

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

The workmanship and materials are good.  
The machinery has been constructed under special survey and is eligible in my opinion for classification and the record + LMC 3.19.

It is submitted that this vessel is eligible for THE RECORD. + LMC 3.19. F.D.

The amount of Entry Fee £ : : When applied for, Special £ 115 18 8 - 8 MAR 1919 Donkey Boiler Fee £ : : When received, Travelling Expenses (if any) £ : : 14 3 19 1919

S. H. Davis

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUE 11 MAR 1919

Assigned + LMC 3.19 F.D.

MADE BY CERTIFICATE WRITTEN.



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