

REPORT ON MACHINERY.

No. 25402

Date of writing Report

19

When handed in at Local Office

7. 9. 1912

Port of Sunderland

Received at London Office

SEP 9-1912

No. in Survey held at Sunderland.

Reg. Book.

on the S/S. "Daqhestan"

Date, First Survey

Reer

Last Survey

24 Aug 1912

(Number of Visits

35)

Master Macfarlane Built at S. land.

By whom built Short Bros Ltd.

Tons

Gross 3691

Net 2288

When built/1912

Engines made at S. land

By whom made J. Dickinson & Sons Ltd.

Boilers made at "

By whom made "

when made 1912

Registered Horse Power

Owners

Hindustan S. Co. Ltd.

Port belonging to

Sunderland

Nom. Horse Power as per Section 28

316

Is Refrigerating Machinery fitted for cargo purposes

No.

Is Electric Light fitted

ENGINES, &c.—Description of Engines

In C.P.A.

Dia. of Cylinders 24" 40" 66"

Length of Stroke 45" 45"

Revs. per minute 40

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 13.85

Material of

in the propeller boss

yes

Is the after end of the liner made water tight

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

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 12.23

Dia. of Crank shaft journals

as per rule 12.84

Dia. of Crank pin 12 7/8"

Size of Crank webs

Patent

Dia. of thrust shaft under

collars 12 7/8"

Dia. of screw 14" 0"

Pitch of Screw 16" 6"

No. of Blades 4

State whether moveable

No

Total surface

85 sq. ft.

No. of Feed pumps 2

Diameter of ditto 3 1/2"

Stroke 22 1/2"

Can one be overhauled while the other is at work

yes

No. of Bilge pumps 2

Diameter of ditto 4 1/2"

Stroke 22 1/2"

Can one be overhauled while the other is at work

yes

No. of Donkey Engines

Sizes of Pumps 9" x 10" & 4" x 6"

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

In Engine Room Three of 3 1/2"

In Holds, &c. 3 1/2" in each hold

No. of Bilge Injections 1

sizes 4"

Connected to condenser, or to circulating pump

C.P.

Is a separate Donkey Suction fitted in Engine room & size

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

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

What pipes are carried through the bunkers

none

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

Dates of examination of completion of fitting of Sea Connections

4th Aug 1912

of Stern Tube

2nd Aug 1912

Screw shaft and Propeller

2nd Aug 1912

Is the Screw Shaft Tunnel watertight

yes

Is it fitted with a watertight door

yes

worked from Engine room top platform.

OILERS, &c.—(Letter for record)

S

Manufacturers of Steel

Spence & Sons Ltd.

Total Heating Surface of Boilers

4859 sq. ft.

Is Forced Draft fitted

no

No. and Description of Boilers

2 S.E. multitubular

Working Pressure

180 lbs

Tested by hydraulic pressure to

360

Date of test

13. 7. 1912

No. of Certificate

3024

Can each boiler be worked separately

yes

Area of fire grate in each boiler

41 sq. ft.

No. and Description of Safety Valves to

each boiler

live Spring

Area of each valve

8.3 sq. in.

Pressure to which they are adjusted

185

Are they fitted with easing gear

Smallest distance between boilers or uptakes and bunkers or woodwork

1' 6"

Mean dia. of boilers

16" 1/4

Length

10' 9"

Material of shell plates

Thickness

1 5/16"

Range of tensile strength

28-32

Are the shell plates welded or flanged

no

Descrip. of riveting: cir. seams

long. seams

R. 2 B. 8

Diameter of rivet holes in long. seams

1 3/8"

Pitch of rivets

9 1/2"

Gap of plates or width of butt straps

1' 8 1/2"

Per centages of strength of longitudinal joint

rivets 88.57

plate 85.56

Working pressure of shell by rules

184

Size of manhole in shell

16" x 12"

Size of compensating ring

8 1/4" x 1 1/2"

No. and Description of Furnaces in each boiler

4 plain

Material

S

Outside diameter

3' 4 1/2"

Length of plain part

top 6' 5"

bottom 6' 6"

Thickness of plates

crown 4 1/4"

bottom 4 1/4"

Description of longitudinal joint

weld

No. of strengthening rings

Working pressure of furnace by the rules

184

Combustion chamber plates: Material

S

Thickness: Sides

1/4"

Back

1/4"

Top

Pitch of stays to ditto: Sides

9" x 10"

Back

8 1/2" x 10"

Top

9" x 9"

If stays are fitted with nuts or riveted heads

nuts

Working pressure by rules

Material of stays

S

Diameter at smallest part

1' 6"

Area supported by each stay

90 sq. in.

Working pressure by rules

183 1/2

End plates in steam space:

Material

S

Thickness

1 1/32"

Pitch of stays

22 1/4" x 16"

How are stays secured

7 nuts

Working pressure by rules

184

Material of stays

Diameter at smallest part

2 7/8"

Area supported by each stay

22 1/4" x 16"

Working pressure by rules

185

Material of Front plates at bottom

S

Thickness

7/8"

Material of Lower back plate

S

Thickness

1 1/4"

Greatest pitch of stays

14 1/2"

Working pressure of plate by rules

19 1/4

Diameter of tubes

3 1/4"

Pitch of tubes

4 1/2" x 4 1/2"

Material of tube plates

S

Thickness: Front

1 3/4"

Back

7/8"

Mean pitch of stays

Pitch across wide water spaces

1' 1 1/4"

Working pressures by rules

20th

Girders to Chamber tops: Material

S

Depth and

thickness of girder at centre

7 1/2" x 2"

Length as per rule

2-5 5/8"

Distance apart

9"

Number and pitch of stays in each

2 @ 9"

Working pressure by rules

184

Superheater or Steam chest; how connected to boiler

-

Can the superheater be shut off and the boiler worked

separately

Diameter

Length

Thickness of shell plates

Material

Description of longitudinal joint

Diam. of rivet

Pitch of rivets

Working pressure of shell by rules

Diameter of flue

Material of flue plates

Thickness

4" stiffened with rings

Distance between rings

Working pressure by rules

End plates: Thickness

How stayed

Working pressure of end plates

Area of safety valves to superheater

Are they fitted with easing gear

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VERTICAL DONKEY BOILER—

Manufacturers of Steel

No.	Description	By whom made	When made	Where fixed
Made at	tested by hydraulic pressure to	Date of test	No. of Certificate	Fire grate area
Working pressure	No. of Safety Valves	Area of each	Pressure to which they are adjusted	Date of adjustment
Valves	If steam from main boilers can enter the donkey boiler	Dia. of donkey boiler	Length	
If fitted with easing gear	Material of shell plates	Thickness	Range of tensile strength	Descrip. of riveting long. seams
Dia. of rivet holes	Whether punched or drilled	Pitch of rivets	Lap of plating	Per centage of strength of joint
Working pressure of shell by rules	Thickness of shell crown plates	Radius of do.	No. of stays to do.	Dia. of stays
Diameter of furnace Top	Bottom	Length of furnace	Thickness of furnace plates	Description of joint
Working pressure of furnace by rules	Thickness of furnace crown plates	Radius of do.	Stayed by	
Diameter of uptake	Thickness of uptake plates	Thickness of water tubes	Dates of survey	

SPARE GEAR. State the articles supplied: *Propeller and shaft. top & bottom bolts & nuts. two main bearing bolts & nuts. Set of Coupling bolts & nuts. Set of feed & bilge pump valves & seats. two feed check valves. Cy or Cover studs. junk ring bolts. two donkey & four ballast valves. nuts. bolts and assorted iron*

The foregoing is a correct description,

Dates of Survey while building	During progress of work in shops --	During erection on board vessel --	Total No. of visits
1911 Dec. 1. Mar. 6. 11. 19. 21. 27. Apr. 2. 16. 17. May 1. 2. 8. 14. 22. 24. June 3. 4. 11. 12. 17. 19. 25. Jul 2. 4. 10. 17. 23. Aug. 9. 12. 15. 21. 24.			

Dates of Examination of principal parts—Cylinders	8. 5. 12	Slides	8. 5. 12	Covers	8. 5. 12	Pistons	8. 5. 12	Rods	8. 5. 12
Connecting rods	22. 5. 12	Crank shaft	14. 5. 12	Thrust shaft	14. 5. 12	Tunnel shafts	14. 5. 12	Screw shaft	2. 7. 12
Stern tube	23. 7. 12	Steam pipes tested	19. 7. 12.	Engine and boiler seatings	16. 7. 12	Engines holding down bolts	19. 7. 12.		
Completion of pumping arrangements	21. 8. 12.	Boilers fixed	19. 7. 12.	Engines tried under steam	21. 8. 12				
Main boiler safety valves adjusted	13. 8. 12	Thickness of adjusting washers	P.B. 7/8 x 1/16						
Material of Crank shaft	S.	Identification Mark on Do.	J.F.R.	Material of Thrust shaft	S	Identification Mark on Do.	J.F.R.		
Material of Tunnel shafts	S	Identification Marks on Do.	J.F.R.	Material of Screw shafts	S	Identification Marks on Do.	J.F.R.		
Material of Steam Pipes	Copper	Test pressure	360 lbs						

General Remarks (State quality of workmanship, opinions as to class, &c. *Engines & boilers built under Special Survey. Materials & workmanship good. Engines & boilers examined under full steam & found satisfactory. In my opinion this vessel is eligible for the record of L.M.C. 8/1912*

It is submitted that this vessel is eligible for THE RECORD + LMC 8.12.

J.W.D.
10/9/12

The amount of Entry Fee	£ 3. . .	When applied for,	7. 9. 12
Special	£ 35. 16. . .	When received,	11. 9. 12
Donkey Boiler Fee	£ . . .		
Travelling Expenses (if any)	£ . . .		

Committee's Minute TUE. SEP. 10. 1912

Assigned

+ L.M.C. 8. 12.

MACHINERY CERTIFICATE WRITTEN.



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