

## REPORT ON MACHINERY.

No. 6046.

Received at London Office

16 DEC 1909

Date of writing Report

19

When handed in at Local Office

11. 12. 19

Port of

Last Survey

9 Dec. 1909

No. in Survey held at

Middlesbrough

Date, First Survey

8th Sept.

Reg. Book.

35 on the Screw Steamer "Gladys"

(Number of Visits

28+10)

Jan 10

356

Master E. J. Mason

Built at Goole

By whom built Goole S.B. &amp; R. Co. Ltd

Tons } Gross 356  
Net 173

When built 1909

Engines made at Middlesbrough

By whom made Richardsons, Westgarth &amp; Co. Ltd

when made 1909

Boilers made at do

By whom made do

when made 1909

Registered Horse Power

Owners Borneo Co. Ltd

Port belonging to London

Nom. Horse Power as per Section 28

77

Is Refrigerating Machinery fitted for cargo purposes

No

Is Electric Light fitted

No

## ENGINES, &amp;c.—Description of Engines

Compound

No. of Cylinders 2

No. of Cranks 2

Dia. of Cylinders 18", 36"

Length of Stroke 24"

Revs. per minute 120

Dia. of Screw shaft

as per rule 7.6"

Material of screw shaft

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 3'-5"

Dia. of Tunnel shaft

as per rule 7.16"

Dia. of Crank shaft journals

as per rule 7.5"

Dia. of Crank pin 7 3/4"

Size of Crank webs 12" x 5"

Dia. of thrust shaft under

collars 7 3/4"

Dia. of screw 8'-6"

Pitch of Screw 8'-9"

No. of Blades 4

State whether moveable

No

Total surface

28 sq. ft.

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 3"

Stroke 12"

Can one be overhauled while the other is at work

yes

No. of Donkey Engines Two

Sizes of Pumps 6" x 5 1/4" x 6"

6" x 4" x 6"

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

In Engine Room Three 2 1/2"

In Holds, &amp;c. For hold one 2 1/2"

After hold

one 2 1/2"

Immel well one 2 1/2"

No. of Bilge Injections 1

sizes 3 1/2"

Connected to condenser, or to circulating pump

Pump

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

Both

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

None

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

Dates of examination of completion of fitting of Sea Connections

3.1.10

of Stern Tube

30.11.09

Screw shaft and Propeller

30.11.09

Is the Screw Shaft Tunnel watertight

yes

Is it fitted with a watertight door

yes

worked from

top grating

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

Manufacturers of Steel

John Spencer &amp; Sons Ltd

Total Heating Surface of Boilers

1494 sq. ft.

Forced Draft fitted

No

No. and Description of Boilers

One S.E. cyl. mult.

Working Pressure

130 lbs

Tested by hydraulic pressure to

260 lbs

Date of test

11.11.09

No. of Certificate

4337

Can each boiler be worked separately

yes

Area of fire grate in each boiler

52 3/4 sq. ft.

No. and Description of Safety Valves to

each boiler

Two direct spring

Area of each valve

8.2"

Pressure to which they are adjusted

Smallest distance between boilers or uptakes and bunkers

on woodwork

12"

Mean dia. of boilers

13'-0"

Length

10'-6"

Material of shell plates

Steel

Thickness

29/32"

Range of tensile strength

28 3/4 - 32

Are the shell plates welded or flanged

No

Descrip. of riveting: cir. seams

St. Lap.

long. seams

A.B.S. 3 lines

Diameter of rivet holes in long. seams

1 1/8"

Pitch of rivets

5 5/16"

Lap of plates or width of butt straps

12 1/4"

Per centages of strength of longitudinal joint

rivets

88.3

Working pressure of shell by rules

144 lbs

Size of manhole in shell

16" x 12"

Size of compensating ring

Flanged

No. and Description of Furnaces in each boiler

Three plain

Material

Steel

Outside diameter

3'-4"

Length of plain part

top 7'-3 1/4"

Thickness of plates

crown 1 1/16"

Description of longitudinal joint

Welded

No. of strengthening rings

Angle

Working pressure of furnace by the rules

145

Combustion chamber plates: Material

Steel

Thickness: Sides

5/8"

Back

5/8"

Top

5/8"

Pitch of stays to ditto: Sides

10 1/2" x 8"

Back

10 1/2" x 9"

Top

11" x 8 1/2"

If stays are fitted with nuts or riveted heads

None

Working pressure by rules

142 lbs

Material of stays

S. Iron

Diameter at smallest part

2.09

Area supported by each stay

94.5

Working pressure by rules

166

End plates in steam space:

Material

Steel

Thickness

1 1/2"

Pitch of stays

20" x 18 1/2"

How are stays secured

S. Iron

Working pressure by rules

136 lbs

Material of Front plates at bottom

Steel

Thickness

27/32"

Material of Lower back plate

Steel

Thickness

13/16"

Greatest pitch of stays

16 1/2" x 8 1/2"

Diameter of tubes

3 1/4"

Pitch of tubes

4 1/2" x 4 3/8"

Material of tube plates

Steel

Thickness: Front

27/32"

Back

11/16"

Pitch across wide water spaces

14 1/2"

Working pressures by rules

135 lbs

Girders to Chamber tops: Material

Steel

Depth and

thickness of girder at centre

7 1/2" x 1 1/2"

Length as per rule

Working pressure by rules

152 lbs

Superheater or Steam chest; how connected to boiler

None

Can the superheater be shut off and the boiler worked

separately

yes

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

If 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

yes

Lloyd's Register

Foundation

007008 - 007020 - 0200



# VERTICAL DONKEY BOILER— Manufacturers of Steel

No. *None* Description  
 Made at *Agincourt* By whom made *By whom made* When made *When made* Where fixed *Where fixed*  
 Working pressure *tested by hydraulic pressure to* Date of test *No. of Certificate* Fire grate area *Description of Safety*  
 Valves *2* No. of Safety Valves *Area of each* Pressure to which they are adjusted *Date of adjustment*  
 If fitted with easing gear *If steam from main boilers can enter the donkey boiler* Dia. of donkey boiler *Length*  
 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 *Rivets*  
 Working pressure of shell by rules *Thickness of shell crown plates* Radius of do. *No. of stays to do.* Dia. of stays *Plates*  
 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* Stayed by  
 Diameter of uptake *Thickness of uptake plates* Thickness of water tubes *Dates of survey*

SPARE GEAR. State the articles supplied:— *Two top + two bottom-end connecting rod bolts + nuts. Two main bearing bolts + nuts. One set of coupling bolts + nuts. One set of feed + bilge pump valves. Main + donkey feed check valves. Assorted bolts + nuts etc.*

The foregoing is a correct description,

*RDSONS, WESTGARTH & Co. Ltd* Manufacturer.

Dates of Survey while building *During progress of work in shop - 1909. Sept. 8. 14. 16. 21. 24. 28. Oct. 1. 5. 9. 11. 14. 16. 20. 21. 22. 29. Nov. 2. 4. 9. 11. 12. 19*  
*During erection on board vessel - 25. 26. Dec. 2. 7. 9. Hull - 1909. - Nov. 10. 11. 12. 22. 23. 25 Dec. 17. 20. 26 1910 Jan 3 -*  
 Total No. of visits *28 + 10 = 38.* Is the approved plan of main boiler forwarded herewith *yes*

Dates of Examination of principal parts—Cylinders *12. 11. 09* Slides *12. 11. 09* Covers *19. 11. 09* Pistons *11. 11. 09* Rods *11. 11. 09*  
 Connecting rods *11. 11. 09* Crank shaft *12. 10. 09* Thrust shaft *25. 11. 09* Tunnel shafts *25. 11. 09* Screw shaft *25. 11. 09* Propeller *25. 11. 09*  
 Stern tube *25. 11. 09* Steam pipes tested *3. 12. 09* Engine and boiler seatings *21. 11. 09* Engines holding down bolts *3. 12. 09*  
 Completion of pumping arrangements *28. 12. 09* Boilers fixed *2. 12. 09* Engines tried under steam *9. 12. 09*  
 Main boiler safety valves adjusted *9. 12. 09* Thickness of adjusting washers *7/16"*  
 Material of Crank shaft *Steel* Identification Mark on Do. *4850CJM* Material of Thrust shaft *Steel* Identification Mark on Do. *4822KH*  
 Material of Tunnel shafts *Steel* Identification Marks on Do. *4825KH* Material of Screw shafts *Steel* Identification Marks on Do. *5626T*  
 Material of Steam Pipes *Solid drawn copper* Test pressure *260 lbs* *Main + Spar*

General Remarks (State quality of workmanship, opinions as to class, &c.)  
*The Engines and Boiler of this vessel have been constructed under Special Survey, are of good material and workmanship, and have been fitted and secured on board in accordance with the Rules. They are now in good working condition and in our opinion eligible to have the notation of +LMC 12. 09. in the Register Book.*

Date of build of Engines *1910.* It is submitted that this vessel is eligible for THE RECORD. + LMC. 1. 10.

The amount of Entry Fee. £ *1 : 0 :* When applied for. *15. 12. 09*  
 Special .. £ *11 : 11 :*  
 Donkey Boiler Fee .. £ *:* When received, at *Con*  
 Travelling Expenses (if any) £ *:* *20 - 12 - 1909*

Committee's Minute

*JAN 25 1910*

Assigned

*James Barclay* Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

