

# REPORT ON MACHINERY.

No. 16518

Port of Hull

RECEIVED 12 JAN 1905

Received at London Office

Survey held at Hull

Date, first Survey Mar. 24<sup>th</sup>

Last Survey Jun 27<sup>th</sup> 1904.

(Number of Visits 14)

Main Boilers for S.S. "Berlin"

Gross 1111 Tons Net 497

Built at Dundee

By whom built W.B. Thompson & Co. Ld.

When built 1891-8

at Dundee

By whom made W.B. Thompson & Co. Ld.

when made 1891

at Hull

By whom made Charles J. B. & Co. Ld.

when made 1904

orse Power

Owners Goole S. S. S. Co. Ld.

Port belonging to Goole

Power as per Section 28 277

Is Refrigerating Machinery fitted No

Is Electric Light fitted Yes

## 8c.—Description of Engines

Description of Engines	Length of Stroke	Revs. per minute	No. of Cylinders		No. of Cranks	
			as per rule	as fitted	Material of screw shaft	Material of screw shaft
Shaft fitted with a continuous liner, the whole length of the stern tube						Is the after end of the liner made water tight
boss		If the liner is in more than one length are the joints burned				If the liner does not fit tightly at the part
ings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive						If two
l, is the shaft lapped or protected between the liners						Length of stern bush
shaft	Dia. of Crank shaft journals	Dia. of Crank pin	Size of Crank webs			Dia. of thrust shaft under
Dia. of screw	Pitch of screw	No. of blades	State whether moveable			Total surface
amps	Diameter of ditto	Stroke	Can one be overhauled while the other is at work			
amps	Diameter of ditto	Stroke	Can one be overhauled while the other is at work			
Engines	Sizes of Pumps		No. and size of Suctions connected to both Bilge and Donkey pumps			
			In Holds, &c.			

ions sizes Connected to condenser, or to circulating pump Is a separate donkey suction fitted in Engine room & size

suction pipes fitted with roses Are the roses in Engine room always accessible Are the sluices on Engine room bulkheads always accessible

ns with the sea direct on the skin of the ship Are they Valves or Cocks

efficiently high on the ship's side to be seen without lifting the stokehold plates Are the discharge pipes above or below the deep water line

d with a discharge valve always accessible on the plating of the vessel Are the blow off cocks fitted with a spigot and brass covering plate

carried through the bunkers How are they protected

cks, valves, and pumps in connection with the machinery and all boiler mountings accessible at all times

tion pipes, cocks, and valves arranged so as to prevent any communication between the sea and the bilges

tube, propeller, screw shaft, and all connections examined in dry dock Is the screw shaft tunnel watertight

a watertight door worked from

C.— (Letter for record (S) Total Heating Surface of Boilers 4580 sq. ft. Is forced draft fitted No

tion of Boilers Two S.E. cyl. Mult. Working Pressure 160 lbs Tested by hydraulic pressure to 320 lbs

6-04 Can each boiler be worked separately yes Area of fire grate in each boiler 68 sq. ft. No. and Description of safety valves to direct opening Area of each valve 7" Pressure to which they are adjusted 16.5 lbs Are they fitted with easing gear yes

etween boilers or uptakes and bunkers or woodwork 6" Mean dia. of boilers 15'-0" Length 12'-3" Material of shell plates Steel

ange of tensile strength 27-32 Are they welded or flanged ✓ Descrip. of riveting: cir. seams BR Lap long. seams BR S. 5 Rivets

holes in long. seams 1 1/2" Pitch of rivets 9 1/8" Lap of plates or width of butt straps 1'-7 3/4"

ngth of longitudinal joint rivets 88.3 plate 85.2 Working pressure of shell by rules 188 lbs Size of manhole in shell 16" x 12"

g ring 2'-8 1/2" x 2'-4 1/2" x 1 1/2" No. and Description of Furnaces in each boiler 3 Curves Material Steel Outside diameter 3'-5 3/4"

rt top ✓ Thickness of plates crown } 5/8" Description of longitudinal joint welded No. of strengthening rings ✓ bottom } 5/8"

furnace by the rules 222 lbs Combustion chamber plates: Material Steel Thickness: Sides 1/16" Back 1/16" Top 1/16" Bottom 13/16"

to: Sides 10 1/2" x 9" Back 9 5/8" x 9 1/2" Top 9" x 8 3/4" If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 179 lbs

Steel Diameter at smallest part 1 5/8" Area supported by each stay 91" Working pressure by rules 204 lbs End plates in steam space:

Thickness 1 1/4" Pitch of stays 17 1/2" x 15 1/2" How are stays secured D. Nuts Working pressure by rules 256 lbs Material of stays Steel

st part 5'-18" Area supported by each stay 271" Working pressure by rules 191 lbs Material of Front plates at bottom Steel

aterial of Lower back plate Steel Thickness 15 3/4" Greatest pitch of stays 20" x 10" Working pressure of plate by rules 238 lbs

1/4" Pitch of tubes 4 3/4" x 4 5/8" Material of tube plates Steel Thickness: Front 15/16" Back 7/8" Mean pitch of stays 9 3/8"

water spaces 14 1/4" Working pressures by rules 166 lbs Girders to Chamber tops: Material Steel Depth and

at centre 9 1/2" x 1 3/4" Length as per rule 3'-1" Distance apart 8 3/4" Number and pitch of Stays in each 3 @ 9"

by rules 172 lbs Superheater or Steam chest; how connected to boiler None Can the superheater be shut off and the boiler worked

Diameter ✓ Length ✓ Thickness of shell plates ✓ Material ✓ Description of longitudinal joint ✓ Diam. of rivet

of rivets ✓ Working pressure of shell by rules ✓ Diameter of flue ✓ Material of flue plates ✓ Thickness ✓

Distance between rings ✓ Working pressure by rules ✓ End plates: Thickness ✓ How stayed ✓

end plates ✓ Area of safety valves to superheater ✓ Are they fitted with easing gear ✓

HUL 425-0099

**DONKEY BOILER—** No. Description

Made at \_\_\_\_\_ By whom made \_\_\_\_\_ When made \_\_\_\_\_ Where fixed \_\_\_\_\_

Working pressure tested by hydraulic pressure to \_\_\_\_\_ No. of Certificate \_\_\_\_\_ Fire grate area \_\_\_\_\_ Description of safety valves \_\_\_\_\_

No. of safety valves \_\_\_\_\_ Area of each \_\_\_\_\_ Pressure to which they are adjusted \_\_\_\_\_ 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 \_\_\_\_\_ 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 \_\_\_\_\_

Thickness of furnace crown plates \_\_\_\_\_ Stayed by \_\_\_\_\_ Working pressure of shell by rules \_\_\_\_\_

Working pressure of furnace by rules \_\_\_\_\_ Diameter of uptake \_\_\_\_\_ Thickness of uptake plates \_\_\_\_\_ Thickness of water tubes \_\_\_\_\_

SPARE GEAR. State the articles supplied:—

FOR EARLE'S  
SHIPBUILDERS & ENGINEERS CO. LIMITED.

The foregoing is a correct description,

Manufacturer. Honnin & Co.

MANAGER. 1904:— Mar 24. Apr 20. 27. May 4. 11. 16. 20. 27. 31. Jun 1. 14. 20. 24. 27.

Dates of Survey while building { During progress of work in shops - - }  
 { During erection on board vessel - - }  
 Total No. of s. 14

Is the approved plan of main boiler forwarded herewith yes  
 " " " donkey " " "

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

These boilers have been constructed under Special Survey, are of good material and workmanship, and have been fitted and secured on board in accordance with the Society's Rules. They are now in good working condition and in my opinion eligible to have the notation of +NB7, 04. in the Register Book.

Certificate (if required) to be sent to \_\_\_\_\_

The amount of Entry Fee... £ : :  
 Special ... £ 11 : 5 : 8 } When applied for, 19/10/1904  
 Donkey Boiler Fee ... £ : : }  
 Travelling Expenses (if any) £ : : } When received, 3/11/1905

*J. Kerr*

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

Committee's Minute

FRI. 13 JAN 1905

TUES. 17 JAN 1905

Assigned



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