

Rpt. 4.

REPORT ON MACHINERY.

No. 11137

Received at London Office WED. MAY. 14. 1913

Date of writing Report 12.5.1913 When handed in at Local Office 13.5.1913 Port of Aberdeen.

No. in Survey held at Aberdeen.

Date, First Survey 13.11.12

Last Survey 30.4.1913

Reg. Book.

(Number of Visits 42)

on the

S.S. "SOUTH BULLI".

Master A. J. G. Billeh. Built at Aberdeen.

By whom built Hall Russell & Co. Ltd. No. 529.

Gross 818.08

Net 359.18

When built 1913.

Engines made at Aberdeen.

By whom made Hall Russell & Co. Ltd. No. 529.

when made 1913.

Boilers made at do.

By whom made do do do.

when made 1913.

Registered Horse Power 140

Owners Messrs Bellambi Coal Co. Ltd.

Port belonging to Sydney.

Nom. Horse Power as per Section 28 140.

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 16", 20", 43"

Length of Stroke 33"

Revs. per minute 100.

Dia. of Screw shaft as per rule 8.122

Material of screw shaft Scrap 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 length 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

Length of stern bush 4' 9 1/2"

Dia. of Tunnel shaft as per rule 8.3049

Dia. of Crank shaft journals as per rule 8.322

Dia. of Crank pin 9 1/4"

Size of Crank webs 14" x 6 3/4"

Dia. of thrust shaft under

collars 9 1/2"

Dia. of screw 10' 9"

Pitch of Screw 14' 0"

No. of Blades 4.

State whether moveable No

Total surface 40 #

No. of Feed pumps 2.

Diameter of ditto 2 3/4"

Stroke 18"

Can one be overhauled while the other is at work Yes.

No. of Bilge pumps 2.

Diameter of ditto 2 3/4"

Stroke 18"

Can one be overhauled while the other is at work Yes.

No. of Donkey Engines 3.

Sizes of Pumps Feed 8 1/2" x 6" x 18"

Purifiers 5" x 3 1/2" x 6"

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

In Engine Room 1 centre & 2 wing, each 2 1/2"

In Holds, &c. No 1 Hold 2 of 2" No 2 Hold 2 of 2 1/2"

No. of Bilge Injections 1 sizes 6"

Connected to condenser, or to circulating pump C.D.

Is a separate Donkey Suction fitted in Engine room & 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 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 Sucs from Nos 1 & 2 holds.

How are they protected Strong wood casing.

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 31.3.13. of Stern Tube 31.3.13. Screw shaft and Propeller 2.4.13.

Is the Screw Shaft Tunnel watertight None.

Is it fitted with a watertight door

worked from

BOILERS, &c.—(Letter for record (7).) Manufacturers of Steel W. Readmore & Co. Ltd. - D. Colville & Sons Ltd.

Total Heating Surface of Boilers 2506 # Is Forced Draft fitted No. No. and Description of Boilers 2. Cyl. mult., Single ended.

Working Pressure 180 lbs.

Tested by hydraulic pressure to 360 lbs.

Date of test 15.3.13.

No. of Certificate 445

Can each boiler be worked separately Yes.

Area of fire grate in each boiler 38.5 #

No. and Description of Safety Valves to

each boiler 2: direct spring.

Area of each valve 4.9 #

Pressure to which they are adjusted 185 lbs

Are they fitted with easing gear Yes.

Smallest distance between boilers or uptakes and bunkers or woodwork inside Mean dia. of boilers 12' 0" Length 11' 0" Material of shell plates S.

Thickness 1 3/32" Range of tensile strength 28-32

Are the shell plates welded or flanged No

Descrip. of riveting: cir. seams d. 7: lap.

long. seams d. 8: straps Diameter of rivet holes in long. seams 1 1/8"

Pitch of rivets 4 1/2" 3 1/2"

Lap of plates or width of butt straps 16 3/8" x 1/4" out. 4 1/2"

Per centages of strength of longitudinal joint

rivets 85.8

Working pressure of shell by rules 202.9

Size of manhole in shell 16" x 12"

Size of compensating ring McNeil

No. and Description of Furnaces in each boiler 2. Brighton.

Material S.

Outside diameter 46 1/4"

Length of plain part top 3"

Thickness of plates crown 9"

bottom 10"

Description of longitudinal joint weld.

No. of strengthening rings 1

Working pressure of furnace by the rules 190.5

Combustion chamber plates: Material S

Thickness: Sides 5"

Back 5"

Top 5"

Bottom 5"

Pitch of stays to ditto: Sides 8 1/2" x 8 1/2" Back 8 1/2" x 8 1/2" Top 9" x 8"

If stays are fitted with nuts or riveted heads No. Working pressure by rules 186.8

Material of stays Iron. Diameter at smallest part 1 9/16"

Area supported by each stay 42.25 # Working pressure by rules 200. End plates in steam space:

Material S.

Thickness 1 3/32"

Pitch of stays 1 1/2" x 1 1/2"

How are stays secured A. N. H. Working pressure by rules 185. Material of stays S.

Diameter at smallest part 2 1/16"

Area supported by each stay 306.25 # Working pressure by rules 211. Material of Front plates at bottom S.

Thickness 1 1/16"

Material of Lower back plate S.

Thickness 3/8"

Greatest pitch of stays 14 1/2" x 8 1/2"

Working pressure of plate by rules 184.3

Diameter of tubes 3 1/2"

Pitch of tubes 4 3/4" x 4 3/4"

Material of tube plates S.

Thickness: Front 1 1/16"

Back 3/8"

Mean pitch of stays 11 3/4"

Pitch across wide water spaces 15 1/4"

Working pressures by rules 13.193.4

Girders to Chamber tops: Material S. Depth and

thickness of girder at centre 8 1/2" x 1 3/4"

Length as per rule 32 3/4"

Distance apart 9" Number and pitch of stays in each three. 8"

Working pressure by rules 184.4 Superheater or Steam chest; how connected to boiler None 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

holes 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

002362-002373-0049

Lloyd's Register Foundation

VERTICAL DONKEY BOILER—Manufacturers of Steel

No.	Description				
Made at	By whom made		When made	Where fixed	
Working pressure	tested by hydraulic pressure to	Date of test	No. of Certificate	Fire grate area	Description of Safety
Valves	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 Plates
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:— 2 top & 2 bottom end, 2 main bearing, 41 set coupling, bolts & nuts; 2 set each, Air, Feed, & Bilge pump valves; 1 Air pump rod; 1 each feed & bilge pump plungers; 1 impeller and shaft for Air pump; 1 set piston rings for each cylinder; 1 valve spindle, with saddle block & ecc. strap; 1 set each, top & bottom end brasses; 1 tail shaft, & 1 propeller; 1 full set, main & donkey check valves; 1 safety valve spring; bolts & nuts assorted, & iron of various sizes.

The foregoing is a correct description,

HALL, RUSSELL & CO., LTD.

Manufacturers of Main Engines & Boilers.

Dates of Survey:—
 During progress of work in shops:— 1912 Nov. 13, 20, 25, 24 - Dec. 4, 10, 16, 24, 26, 30. 1913 Jan. 4, 14, 15, 16, 14, 18, 20, 23, 30 - Feb. 4, 13, 14, 19
 During erection on board vessel:— 24, 28 - Mar. 5, 13, 15, 18, 24, 24, 31 - Apr. 2, 3, 4, 5, 8, 14, 16, 18, 29, 30.
 Total No. of visits 43.
 Is the approved plan of main boiler forwarded herewith *yes.*

Dates of Examination of principal parts—Cylinders $\frac{25}{11} \frac{16}{12} \frac{28}{2} \frac{13}{5}$ Slides $\frac{20}{1} \frac{13}{3}$ Covers $\frac{24}{12} \frac{4}{2}$ Pistons $\frac{24}{12} \frac{14}{2} \frac{13}{3}$ Rods $\frac{24}{12} \frac{20}{7} \frac{24}{2}$
 Connecting rods $\frac{24}{12} \frac{20}{7} \frac{14}{2} \frac{18}{5}$ Crank shaft $\frac{18}{2} \frac{2}{4}$ Thrust shaft $\frac{24}{12} \frac{30}{7} \frac{34}{5}$ Tunnel shafts \checkmark Screw shaft $\frac{18.20}{7} \frac{13.34}{5}$ Propeller $\frac{18.24}{3}$
 Stern tube $\frac{13.24}{3}$ Steam pipes tested 14.4.13. Engine and boiler seatings $\frac{16}{1} \frac{34}{3}$ Engines holding down bolts 14.4.13.
 Completion of pumping arrangements 18.4.13. Boilers fixed 14.4.13. Engines tried under steam 18.4.13.
 Main boiler safety valves adjusted 18.4.13. Thickness of adjusting washers Port boiler-port $\frac{11}{32}$ Star $\frac{7}{16}$ Star boiler-port $\frac{11}{32}$ Star $\frac{7}{16}$
 Material of Crank shaft \checkmark Identification Mark on Do. 1209.D. Material of Thrust shaft \checkmark Identification Mark on Do. 435A.
 Material of Tunnel shafts \checkmark Identification Marks on Do. \checkmark Material of Screw shafts \checkmark Identification Marks on Do. 436A.
 Material of Steam Pipes Copper, solid drawn. $3\frac{3}{4}$ " bore No. 6. B. L. C. 9. Test pressure 360 lbs. per square inch.

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

These Engines & Boilers, have been constructed under Special Survey, & in accordance with the Secretary's letters, the Rules, and approved plans. The materials and workmanship are good. When completed and properly fitted on board, they were tried under steam at moorings with satisfactory results, and are now in good working order, and in my opinion entitled to the record \star L.M.C. 4.13 in the Register Book.

An electric light installation has been fitted on board the vessel, a report on which will be forwarded in due course.

It is submitted that
this vessel is eligible for
THE RECORD. + LMC 4.13.

The amount of Entry Fee £ 2 : : When applied for,
 Special £ 21. 0 : : 13. 5. 1913.
 Donkey Boiler Fee £ : : When received,
 Travelling Expenses (if any) £ : : 13. 5. 1913.

Committee's Minute FRI. MAY 16. 1913

Assigned

thmc 4.13

MACHINERY CERTIFICATE
WRITTEN.



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Lloyd's Register
Foundation

Rpt. 13.

Port of

No. in
Reg. Book
16412

Owners

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DESCRIPTION

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