

REPORT ON MACHINERY

No. 34292

WED. AUG. 12. 1914

W707-0202

Received at London Office

Date of writing Report 21-7-14. When handed in at Local Office 10.8.14 Port of Glasgow.

No. in Survey held at Glasgow. Date, First Survey 17.9.13 Last Survey 1.7.14

Reg. Book. 428 on the Triple expansion engines for S.S. "BINGERA" (Number of Visits 34)

Master H. Macfarlane. Built at Belfast By whom built Messrs Workman Clark & Co. Ltd. Tons { Gross 2092
Net 190.

Engines made at Glasgow. By whom made Messrs W. & B. Baxter No. 461-2-3. when made 1914.

Boilers made at Belfast. By whom made Workman Clark & Co. Ltd. when made 1905.

Horse Power Owners Australia's United Steam Navigation Co. Ltd. Port belonging to Brisbane

Horse Power as per Section 28 498. Is Refrigerating Machinery fitted for cargo purposes No. Is Electric Light fitted yes.

Lines, &c.—Description of Engines Triple 3 sets. No. of Cylinders 12 4 each set No. of Cranks 4 12 each set

of Cylinders 15" x 24" x 24" x 24". Length of Stroke 21. Revs. per minute 4. Dia. of Screw shaft 4 1/2. Material of screw shaft steel

screw shaft fitted with a continuous liner the whole length of the stern tube No liners Is the after end of the liner made water tight

propeller boss — If the liner is in more than one length are the joints burned — If the liner does not fit tightly at the part

in the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive — If two

are fitted, is the shaft lapped or protected between the liners — white metal. Length of stern bush 3'-6".

of Tunnel shaft as per rule 6 5/8. Dia. of Crank shaft journals as per rule 4. Dia. of Crank pin 4. Size of Crank webs 8 1/4 x 4 7/8 Dia. of thrust shaft under

as fitted 6 5/8. Dia. of screw 4'-3" Pitch of Screw 9'-0". No. of Blades 3 State whether moveable No. Total surface 16 1/2 sq. ft.

of Feed pumps ✓ Diameter of ditto Stroke Can one be overhauled while the other is at work

of Bilge pumps ✓ NOTE: No PUMPS ON MAIN ENGINES. Diameter of ditto Stroke Can one be overhauled while the other is at work

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

Engine Room In Holds, &c.

of Bilge Injections sizes Connected to condenser, or to circulating pump Is a separate Donkey Suction fitted in Engine room & size

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

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

they fixed sufficiently 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

they each fitted 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

at pipes are carried through the bunkers How are they protected

all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times

the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges

tests of examination of completion of fitting of Sea Connections of Stern Tube Screw shaft and Propeller

the Screw Shaft Tunnel watertight Is it fitted with a watertight door worked from

ILERS, &c.—(Letter for record) Manufacturers of Steel

total Heating Surface of Boilers 9530 Is Forced Draft fitted Yes No. and Description of Boilers 2 D and 1 J. S. B.

Working Pressure 160. Tested by hydraulic pressure to Date of test No. of Certificate

in each boiler be worked separately Area of fire grate in each boiler No. and Description of Safety Valves to

each boiler Area of each valve Pressure to which they are adjusted Are they fitted with easing gear

smallest distance between boilers or uptakes and bunkers or woodwork Mean dia. of boilers Length Material of shell plates

thickness Range of tensile strength Are the shell plates welded or flanged Descrip. of riveting: cir. seams

ing. seams Diameter of rivet holes in long. seams Pitch of rivets Lap of plates or width of butt straps

percentages of strength of longitudinal joint rivets Working pressure of shell by rules Size of manhole in shell

size of compensating ring No. and Description of Furnaces in each boiler Material Outside diameter

length of plain part top Thickness of plates crown Description of longitudinal joint No. of strengthening rings

bottom Working pressure of furnace by the rules Combustion chamber plates: Material Thickness: Sides Back Top Bottom

Pitch of stays to ditto: Sides Back Top If stays are fitted with nuts or riveted heads Working pressure by rules

Material of stays Diameter at smallest part Area supported by each stay Working pressure by rules End plates in steam space:

Material Thickness Pitch of stays How are stays secured Working pressure by rules Material of stays

Diameter at smallest part Area supported by each stay Working pressure by rules Material of Front plates at bottom

Thickness Material of Lower back plate Thickness Greatest pitch of stays Working pressure of plate by rules

Diameter of tubes Pitch of tubes Material of tube plates Thickness: Front Back Mean pitch of stays

Pitch across wide water spaces Working pressures by rules Girders to Chamber tops: Material Depth and

thickness of girder at centre Length as per rule Distance apart Number and pitch of stays in each

Working pressure by rules 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

holes Pitch of rivets Working pressure of stays Diameter of flue Material of flue plates Thickness

If stayed with 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

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:—

The foregoing is a correct description,

Manufacturer.

Wickie Foster

Dates of Survey while building { During progress of work in shops -- 1913. Sept. 17. Oct. 16. Nov. 5-19. 28 Dec. 3. 10. 17. 1914. Jan. 12. 14. 20. 27. 28.
During erection on board vessel --- Feb. 4. 12. 18. Mar. 4. 10. 20. Apr. 1. 8. 15. 22. 29. May 6. 14. 26. June 1. 8. 9. 10. 11. 25. July 1.
Total No. of visits 34

Is the approved plan of main boiler forwarded herewith

Dates of Examination of principal parts—Cylinders 4-2-14. Slides 20-1-14. Covers 20-1-14. Pistons 20-1-14. Rods 12-1-14.

Connecting rods 12-1-14. Crank shafts 20-1-14. Thrust shaft 10-1-14. Tunnel shafts 21-1-14. Screw shaft 20-12-13. Propeller 20-12-13.

Stern tube 20-1-14. Steam pipes tested 1-5. 10-6-14. Engine and boiler seatings ✓ Engines holding down bolts ✓

Completion of pumping arrangements ✓ Boilers fixed ✓ Engines tried under steam ✓

Main boiler safety valves adjusted ✓ Thickness of adjusting washers ✓

Material of Crank shaft Steel Identification Mark on Do. 30-1-14 Material of Thrust shaft Steel Identification Mark on Do. 10-1-14

Material of Tunnel shafts Steel Identification Marks on Do. 20-1-14 Material of Screw shafts Steel Identification Marks on Do. 20-12-13

Material of Steam Pipes Copper Stamped P.B. Test pressure 360 lbs.

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

The materials and workmanship are good.
These engines have been built under special survey in accordance with the rules, and are being sent to Brisbane to be fitted on board the above named vessel.

The amount of Entry Fee _____ When applied for, _____

Special _____ 14 19 11. 8. 14

Donkey Boiler Fee _____ When received, _____

Travelling Expenses (if any) £ _____

Committee's Minute GLASGOW

Assigned TRANSMIT TO LONDON

J. Davey, A.M. McLeod
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.



Lloyd's Register Foundation