

REPORT ON MACHINERY.

No. 24332
JAN. 31 JAN 1910

Received at London Office

Date of writing Report

19

When handed in at Local Office

29 Jan. 1910 Port of Sunderland

No. in Survey held at
Reg. Book.

Sunderland

Date, First Survey 17 Feb 1909 Last Survey 27 Jan 1910

(Number of Visits)

on the

S/S "Bonducar"

Tons

Gross 1441

Net 804

When built 1909-10

Master

Built at S. land

By whom built J. Brown & Sons Ltd.

Engines made at S. land

By whom made Richardsons Westgarth 16' 1" when made 1909-10

Boilers made at "

By whom made "

when made 1910

Registered Horse Power

Owners Broomhill Collieries Ltd. Port belonging to Newcastle

Nom. Horse Power as per Section 28 182

Is Refrigerating Machinery fitted for cargo purposes no. Is Electric Light fitted no.

ENGINES, &c.—Description of Engines

In Cpd.

No. of Cylinders 3 No. of Cranks 3

Dia. of Cylinders 18" 30" 50" Length of Stroke 36" Revs. per minute 77. Dia. of Screw shaft as per rule 10" 7/8" Material of screw shaft as fitted 10" 7/8" 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' 8" yes

Dia. of Tunnel shaft as per rule 9" 41/64" Dia. of Crank shaft journals as per rule 9" 8/16" Dia. of Crank pin 10" Size of Crank webs 15" x 6 1/2" Dia. of thrust shaft under

collars 10" Dia. of screw 13" 5" Pitch of Screw 14" 6" No. of Blades 4 State whether moveable f Total surface 55"

No. of Feed pumps 2 Diameter of ditto 3" Stroke 18" Can one be overhauled while the other is at work yes

No. of Bilge pumps 2 Diameter of ditto 3" Stroke 18" Can one be overhauled while the other is at work yes

No. of Donkey Engines 2 Sizes of Pumps 11" x 10" 5" x 3 1/2" x 5" No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room 4 of 2 1/2" In Holds, &c. two of 2 1/2" in each

No. of Bilge Injections 1 sizes 4 Connected to condenser, or to circulating pump CP. Is a separate Donkey Suction fitted in Engine room & size yes 3 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 yes

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 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 13.12.09 of Stern Tube 13.12.09 Screw shaft and Propeller 24.12.09

Is the Screw Shaft Tunnel watertight yes. Is it fitted with a watertight door yes. worked from top platform

BOILERS, &c.—(Letter for record 8) Manufacturers of Steel J. Spencer & Sons Ltd.

Total Heating Surface of Boilers 3060 Is Forced Draft fitted no. No. and Description of Boilers 2 S. E. ✓

Working Pressure 180 lb. Tested by hydraulic pressure to 360 Date of test 29.7.09 No. of Certificate 2477

Can each boiler be worked separately yes. Area of fire grate in each boiler 41 ft. No. and Description of Safety Valves to

each boiler 2 Spring Area of each valve 4" 9" Pressure to which they are adjusted 185 lb. Are they fitted with easing gear yes

Smallest distance between boilers or uptakes and bunkers or woodwork 2 feet Mean dia. of boilers 12' 9 1/2" Length 10 ft. Material of shell plates S

Thickness 1 1/2" Range of tensile strength 28-32. Are the shell plates welded or flanged Ends Descrip. of riveting: cir. seams 2 x 4

long. seams 2 x 4. Diameter of rivet holes in long. seams 1 3/32 Pitch of rivets 7 3/4 Lap of plates or width of butt straps 14 1/2

Per centages of strength of longitudinal joint rivets 81.4 plate 85.9 Working pressure of shell by rules 181 lb. Size of manhole in shell 16" x 12"

Size of compensating ring flanged. No. and Description of Furnaces in each boiler 2 Morrison's Material S Outside diameter 44 3/4

Length of plain part top bottom Thickness of plates crown bottom 9/16 Description of longitudinal joint Welded. No. of strengthening rings

Working pressure of furnace by the rules 185 Combustion chamber plates: Material S Thickness: Sides 7/16 Back 3/16 Top 7/16 Bottom 7/16

Pitch of stays to ditto: Sides 10" x 8 1/2" Back 9 1/2" x 9 Top 10" x 8 1/2" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 180

Material of stays S Diameter at smallest part 1 7/8" Area supported by each stay 82' 8" Working pressure by rules 196 End plates in steam space:

Material S Thickness 1 5/32 Pitch of stays 18 1/2" x 18 How are stays secured d nuts Working pressure by rules 181 Material of stays S

Area Diameter at smallest part 6" 1" Area supported by each stay 331' 2" Working pressure by rules 196 Material of Front plates at bottom S

Thickness 3/8" Material of Lower back plate S Thickness 3/4 Greatest pitch of stays 16" x 9" Working pressure of plate by rules 232

Diameter of tubes 3 1/4 Pitch of tubes 4 1/2" x 4 1/4" Material of tube plates S Thickness: Front 25/32 Back 25/32 Mean pitch of stays 13" x 8 1/2"

Pitch across wide water spaces 15" Working pressures by rules 191 lb. Girders to Chamber tops: Material S Depth and

thickness of girder at centre 8 1/2" x 12" Length as per rule 29% Distance apart 10" Number and pitch of stays in each 2 @ 8 1/2"

Working pressure by rules 181 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 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 in superheater Are they fitted with easing gear

008386-008372-0087

VERTICAL DONKEY BOILER—

Manufacturers of Steel

Report attached.

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
 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 Stayed by
 Diameter of uptake Thickness of uptake plates Thickness of water tubes Dates of survey

SPARE GEAR. State the articles supplied:— 1 set connecting rod bolts & nuts. 2 main bearing bolts & nuts. 1 set coupling bolts. 1 set feed valve pump valves, propeller, nuts bolts & assortment.

The foregoing is a correct description.

RICHARDSONS, WESTGARTH & CO. LTD

Frederic H. Russell

Manufacturer.

ASSISTANT MANAGER.

Dates of Survey of progress of work in shops - 1909- Feb 17, 20, 24, 27, Apr 15, 17, 18, 28, May 4, 8, 10, 12, 14, 18, 20, 25
 of erection on board vessel - June 2, 11, July 8, 17, 22, 26, 29, Aug 5, 10, 20, Sep 2, 8, 11, 21, 29, Nov 19, Dec 8, 13, 24, 28, 31.
 building 1910-Jan 5, 6, 7, 11, 13, 14, 21, 27
 Total No. of visits 47
 Is the approved plan of main boiler forwarded herewith Yes

Dates of Examination of principal parts—Cylinders 28.5.09 Slides 28.5.09 Covers 28.5.09 Pistons 28.5.09 Rods 28.5.09
 Connecting rods 28.5.09 Crank shaft 28.5.09 Thrust shaft 28.5.09 Tunnel shafts 28.5.09 Screw shaft 28.5.09 Propeller 28.5.09
 Stern tube 8.12.09 Steam pipes tested 8.12.09 Engine and boiler seatings 13.12.09 Engines holding down bolts 28.12.09
 Completion of pumping arrangements 6.1.10. Boilers fixed 28.12.09 Engines tried under steam 6-1-1910
 Main boiler safety valves adjusted 6-1-1910 Thickness of adjusting washers P.P. 5/16 S.F. 5/16 S.B. 1/4 S.F. 5/16
 Material of Crank shaft Identification Mark on Do. 477.509 Material of Thrust shaft Identification Mark on Do. R.J.T.
 Material of Tunnel shafts Identification Marks on Do. PA 6.09 1418. Material of Screw shafts Identification Marks on Do. 3144A
 Material of Steam Pipes Copper. Test pressure 360 lbs

General Remarks (State quality of workmanship, opinions as to class, &c.) Machinery & boilers built under Special Survey. Materials & workmanship good. Engines & boilers examined under Steam found satisfactory. In my opinion this vessel is eligible for the record of L.M.C. 1.10.

It is submitted that this vessel is eligible for THE RECORD. + L.M.C. 1.10

Wed. 31.1.10.

J.P.P.

The amount of Entry Fee .. £ 2 : : When applied for, 29.1.10
 Special .. £ 27.6 : : When received, 14.2.10
 Donkey Boiler Fee .. £ : :
 Travelling Expenses (if any) £ : :
 TUES. 1 FEB 1910

Committee's Minute

Assigned

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

FRI 19 FEB 1937

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MACHINERY CERTIFICATE
 1/2/10
 + 15/3/10