

REPORT ON MACHINERY.

No. 7218.
MON. MAR. 4 - 1912
THU. FEB. 8 - 1912

Port of MIDDLESBROUGH-ON-TEES

Received at London Office

No. in Survey held at Middlesbrough

Date, first Survey 14th Aug. 1911

Last Survey 27th Jan. 1912

Reg. Book.

32 on the S.S. "New Abbotshall"

(Number of Visits 47)

Tons { Gross 783
Net 328

Master Built at Goole

By whom built Goole S.B. & R. Co. Ld.

When built 1912

Engines made at Middlesbrough

By whom made Richardsons, Westgarth & Co. Ld.

when made 1912

Boilers made at do

By whom made do

when made 1912

Registered Horse Power

Owners Stocks, Turnbull & Co. Ld.

Port belonging to Kirkcaldy

Nom. Horse Power as per Section 28 209

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 18", 29", 48" Length of Stroke 33" Revs. per minute

Dia. of Screw shaft as per rule 9.9" as fitted 10.8"

Material of screw shaft Steel

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 ✓

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 ✓

If two

liners are fitted, is the shaft lapped or protected between the liners ✓

Length of stern bush 3'-7"

Dia. of Tunnel shaft as per rule 8.96" as fitted none

Dia. of Crank shaft journals as per rule 9.4" as fitted 9.2"

Dia. of Crank pin 10" Size of Crank webs 15" x 6"

Dia. of thrust shaft under collars 9.2" Dia. of screw 12'-0" Pitch of Screw 12'-6"

No. of Blades 4 State whether moveable No Total surface 50 sq. ft.

No. of Feed pumps 20 Diameter of ditto 2.2" Stroke 19.2" Can one be overhauled while the other is at work yes

No. of Bilge pumps 2 Diameter of ditto 3" Stroke 19.2" Can one be overhauled while the other is at work yes

No. of Donkey Engines Three Sizes of Pumps 9" x 10", 6" x 4" x 6", 5" x 4" x 5" No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room Two 2.2" In Holds, &c. Two 2.2"

No. of Bilge Injections 1 sizes 5.2" Connected to condenser, or to circulating pump Pump Is a separate Donkey Suction fitted in Engine room & size yes 3"

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 Hold suction How are they protected Wood ceiling

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 12.12.11 of Stern Tube 10.1.12 Screw shaft and Propeller 10.1.12

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

BOILERS, &c.—(Letter for record (S) Manufacturers of Steel John Spencer & Sons Ld.

Total Heating Surface of Boilers 3310 sq. ft. Is Forced Draft fitted yes No. and Description of Boilers One S.E. cyl. hull

Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs Date of test 21.12.11 No. of Certificate 4799

Can each boiler be worked separately ✓ Area of fire grate in each boiler 88 sq. ft. No. and Description of Safety Valves to each boiler Two direct spring Area of each valve 11" 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 12" Mean dia. of boilers 17'-0" Length 12'-0" Material of shell plates Steel

Thickness 1.32" Range of tensile strength 28.3 - 32 Are the shell plates welded or flanged No Descrip. of riveting: cir. seams S.P. lap

long. seams S.P. 5 Rivet Diameter of rivet holes in long. seams 1.76" Pitch of rivets 10.4" Lap of plates or width of butt straps 1-10.4"

Per centages of strength of longitudinal joint rivets 91 plate 84.75 Working pressure of shell by rules 210 lbs Size of manhole in shell 16" x 12"

Size of compensating ring 35" x 29.2" x 1.32" No. and Description of Furnaces in each boiler 4 Morisons Material Steel Outside diameter 3'-10.4"

Length of plain part top ✓ bottom ✓ Thickness of plates crown 9" bottom 16" Description of longitudinal joint welded No. of strengthening rings ✓

Working pressure of furnace by the rules 190 lbs Combustion chamber plates: Material Steel Thickness: Sides 23" Back 23" Top 23" Bottom 29"

Pitch of stays to ditto: Sides 11.4" x 8" Back 11.2" x 8" Top 11" x 8.2" If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 182 lbs

Material of stays Steel Diameter at smallest part 2.09" Area supported by each stay 92" Working pressure by rules 204 lbs End plates in steam space:

Material Steel Thickness 1.3" Pitch of stays 21" x 17" How are stays secured br + w. Working pressure by rules 183 lbs Material of stays Steel

Diameter at smallest part 8.29" Area supported by each stay 357" Working pressure by rules 240 lbs Material of Front plates at bottom Steel

Thickness 7/8" Material of Lower back plate Steel Thickness 15" Greatest pitch of stays 16" x 8" Working pressure of plate by rules 190 lbs

Diameter of tubes 2.2" Pitch of tubes 3.34" x 3.34" Material of tube plates Steel Thickness: Front 15" Back 3/4" Mean pitch of stays 11.4" x 7.2"

Pitch across wide water spaces 13.2" Working pressures by rules 185 lbs Girders to Chamber tops: Material Steel Depth and

thickness of girder at centre 9.34" x 2" Length as per rule 2-11.5" Distance apart 11" Number and pitch of stays in each 3 @ 8.4"

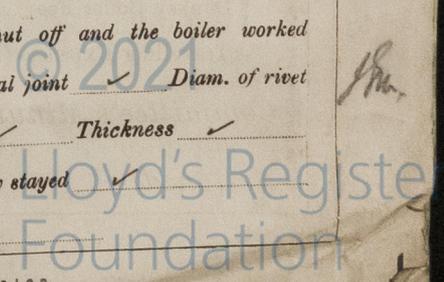
Working pressure by rules 190 lbs Superheater or Steam chest; how connected to boiler None Can the superheater be shut off and the boiler worked

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 ✓



VERTICAL DONKEY BOILER— Manufacturers of Steel

No. *One* Description *See Middlesbrough Report No. 7168*

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 _____ 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. One screw shaft & one propeller. Assorted bolts & nuts etc.*

The foregoing is a correct description,

For and on behalf of _____ Manufacturer. **RICHARDSONS, WESTGARTH & Co., Ltd.**

Dates of Survey while building: During progress of work in shops *1911. Aug. 14, 16, 28, 30. Sept. 4, 11, 12, 19, 21, 27. Oct. 2, 3, 9, 11, 12, 19, 20, 27, 28, 31. Nov. 8, 9, 14, 17, 21. 28, 30. Dec. 1, 4, 8, 11, 13, 14, 18, 19, 20, 21, 1912. Jan. 3, 8, 10, 11, 16, 20, 22, 23, 24, 27.* MANAGING DIRECTOR. *Hull - Dec 6, 23. Feb. 3, 5, 8, 10, 15.* Total No. of visits *49 + 7 = 54* Is the approved plan of main boiler forwarded herewith *yes*

Dates of Examination of principal parts: Cylinders *21. 11. 11.* Slides *18. 12. 11.* Covers *20. 12. 11.* Pistons *11. 12. 11.* Rods *11. 12. 11.*

Connecting rods *11. 12. 11.* Crank shaft *21. 9. 11* Thrust shaft *20. 12. 11* Tunnel shafts *✓* Screw shaft *28. 11. 11* Propeller *3. 1. 12*

Stern tube *20. 12. 11.* Steam pipes tested *22. 1. 12* Engine and boiler seatings *12. 12. 11* Engines holding down bolts *20. 1. 12*

Completion of pumping arrangements *24. 1. 12* Boilers fixed *20. 1. 12* Engines tried under steam *24. 1. 12*

Main boiler safety valves adjusted *24. 1. 12.* Thickness of adjusting washers *PV 9/32 SV 11/32*

Material of Crank shaft *Steel* Identification Mark on Do. *5143 AB* Material of Thrust shaft *Steel* Identification Mark on Do. *4557 PA.*

Material of Tunnel shafts *✓* Identification Marks on Do. *✓* Material of Screw shafts *Steel* Identification Marks on Do. *5143 AB.*

Material of Steam Pipes *Solid drawn copper* Test pressure *360 lbs*

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

The Engines and Boilers of this vessel have been constructed under Special Survey, are of good material and workmanship, and have been fitted and received 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 2.12 in the Register Book.

It is submitted that this vessel is eligible for THE RECORD + LMC 2.12.

F.D. *JWD.* *4/3/12*

The amount of Entry Fee... £ 2 : 0 : _____ When applied for, *7. 2. 12.*
Special £ 30 : 9 : _____
Donkey Boiler Fee £ : : _____ When received, *17-2-12.*
Travelling Expenses (if any) £ : : _____

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

Committee's Minute
Assigned _____
TUE. MAR. 5 - 1912
+ LMC 2.12



Richardson

Certificate (if required) to be sent to the Secretary of the Committee's Minute.