

REPORT ON MACHINERY.

No. 7814

MON. MAR. 17. 1913

Received at London Office

Date of writing Report

When handed in at Local Office

15. 3. 1913 Port of

MIDDLESBROUGH ON TEES

No. in Survey held at

Middlesbrough

Date, First Survey

11. March 1912

Last Survey

11. March 1913

Reg. Book.

71 on the

S.S. "Lees Trader"

(Number of Visits 8)

Gross

Net

Master

Built at Dundee

By whom built

Dundee S.B. & Co. Ltd.

When built 1913

Engines made at

Middlesbrough

By whom made

Richardsons, Westgarth & Co. (396)

when made 1913

Boilers made at

do

By whom made

do

when made 1913

Registered Horse Power

Owners Furness, Withy & Co. Ltd.

Port belonging to West Hartlepool

Nom. Horse Power as per Section 28 171

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 17", 28", 46"

Length of Stroke 33"

Revs. per minute

Dia. of Screw shaft

as per rule 9.96"

Material of screw shaft

as fitted 10 1/4" 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 8.67"

as fitted 9"

Dia. of Crank shaft journals as per rule 9.1"

as fitted 9 1/4"

Dia. of Crank pin 9 1/4"

Size of Crank webs 14x6"

Dia. of thrust shaft under

collars 9 1/4"

No. of Feed pumps 2

Diameter of ditto 2 3/4"

Stroke 18"

Can one be overhauled while the other is at work yes

yes

No. of Bilge pumps 2

Diameter of ditto 3"

Stroke 18"

Can one be overhauled while the other is at work yes

yes

No. of Donkey Engines Three

Sizes of Pumps 7 1/2 x 8 1/2 x 8"

5 1/4 x 3 1/2 x 5"

5 1/4 x 3 1/2 x 5"

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

In Engine Room four 2"

In Holds, &c. For hold two 2" After hold

three 2" Tunnel well one 2 1/4"

No. of Bilge Injections 1

sizes 4"

Connected to condenser, or to circulating pump Pump

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 Below

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 Forward bilge suction

How are they protected Wood casing

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

yes

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

yes

Dates of examination of completion of fitting of Sea Connections 6-2-13

of Stern Tube 20.2.13

Screw shaft and Propeller 20.2.13

Is the Screw Shaft Tunnel watertight yes

Is it fitted with a watertight door yes

worked from Top grating

BOILERS, &c.—(Letter for record (5))

Manufacturers of Steel John Spencer Horn Ltd.

Total Heating Surface of Boilers 3177 sq. ft.

Is Forced Draft fitted No

No. and Description of Boilers One S.E. Cyl. Multi.

Working Pressure 180 lbs

Tested by hydraulic pressure to 360 lbs

Date of test 12.8.12

No. of Certificate 4926

Can each boiler be worked separately

Area of fire grate in each boiler 81 sq. ft.

No. and Description of Safety Valves to

each boiler Two direct spring

Area of each valve 9.6 sq. in.

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 16 1/2"

Mean dia. of boilers 17'-0"

Length 11'-6"

Material of shell plates Steel

Thickness 1 1/32"

Range of tensile strength 29-32

Are the shell plates welded or flanged No

Descrip. of riveting: cir. seams OK lap

long. seams 8 B.S. Rivets

Diameter of rivet holes in long. seams 1 5/16"

Pitch of rivets 8 3/4"

Lap of plates or width of butt straps 1'-7 1/2"

Per centages of strength of longitudinal joint

rivets 85.6

Working pressure of shell by rules 184 lbs

Size of manhole in shell 16x12"

Size of compensating ring 3 1/2 x 29 x 1 1/32"

No. and Description of Furnaces in each boiler 4 Morrison

Material Steel

Outside diameter 3'-6 3/4"

Length of plain part

top 17"

Thickness of plates

bottom 32"

Description of longitudinal joint Welded

No. of strengthening rings

Working pressure of furnace by the rules 191 lbs

Pitch of stays to ditto: Sides 10 3/8 x 8"

Back 10 x 8 1/2"

Top 11 x 7 3/4"

If stays are fitted with nuts or riveted heads Nuts

Working pressure by rules 190 lbs

Material of stays Steel

Thickness 1 1/4"

Pitch of stays 21 x 17"

How are stays secured Nuts

Working pressure by rules 192 lbs

Material of stays Steel

End plates in steam space:

Area at smallest part 7.02 sq. ft.

Thickness 1"

Material of Lower back plate Steel

Thickness 29/32"

Greatest pitch of stays 15 1/2 x 8 1/2"

Working pressure of plate by rules 182 lbs

Diameter of tubes 3 1/4"

Pitch of tubes 4 1/2 x 4 1/2"

Material of tube plates Steel

Thickness: Front 1"

Back 25/32, 3/4"

Mean pitch of stays 11 1/4"

Pitch across wide water spaces 14 1/4"

Working pressures by rules 189 lbs

Girders to Chamber tops: Material Steel

thickness of girder at centre 9 1/2 x 1 3/4"

Length as per rule 2'-8 5/8"

Distance apart 11"

Number and pitch of stays in each 3 @ 7 3/4"

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

Working pressure of end plates

Area of safety valves to superheater

Are they fitted with easing gear

End plates: Thickness

How stayed

Working pressure by rules

Are they fitted with easing gear

Working pressure of end plates

Area of safety valves to superheater

Working pressure of end plates

Area of safety valves to superheater

Are they fitted with easing gear

End plates: Thickness

How stayed

Working pressure by rules

Are they fitted with easing gear

Working pressure of end plates

Area of safety valves to superheater

VERTICAL DONKEY BOILER— Manufacturers of Steel

No. One Description Blake Patent, see Mdb. Rpt. No: 7607

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 Rivets Plates 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 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:— 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 set of H.P. piston valve rings. One screw shaft. Assorted bolts & nuts etc. The foregoing is a correct description,

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

Table with columns: Dates of Survey while building, During progress of work in shops, During erection on board vessel, Total No. of visits. Includes dates from March to August 1913.

Dates of Examination of principal parts: Cylinders 7.1.13, Slides 28.1.13, Covers 28.1.13, Pistons 20.1.13, Rods 20.1.13, Connecting rods 20.1.13, Crank shaft 25.6.12, Thrust shaft 13.12.12, Tunnel shafts 13.12.12, Screw shaft 11.2.13, Propeller 11.2.13, Stern tube 11.2.13, Steam pipes tested 26.2.13, Engine and boiler seatings 13/12, 30/1, 4/13, Engines holding down bolts 25.2.13, Completion of pumping arrangements 1.3.13, Boilers fixed 25.2.13, Engines tried under steam 1.3.13, Main boiler safety valves adjusted 1.3.13, Thickness of adjusting washers PV 7/16 SV 7/16, Material of Crank shaft Steel, Identification Mark on Do. 5285AB, Material of Thrust shaft Steel, Identification Mark on Do. 5198PA, Material of Tunnel shafts Steel, Identification Marks on Do. 4203HK, 4204HK, Material of Screw shafts Steel, Identification Marks on Do. 2081MB, Spare 5199 PA, 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 secured on board in accordance with the Rules. They are now in good working condition and in my opinion eligible to have the notation of + LMC 3.13. in the Register Book.

It is submitted that this vessel is eligible for THE RECORD, + LMC 3.13.

The amount of Entry Fee .. £ 2 : 0 : When applied for, Special .. £ 25 : 13 : 11.3.13 Donkey Boiler Fee .. £ : : When received, Travelling Expenses (if any) £ : : 20.3.13

Committee's Minute TUE. APR 8-1913 Assigned Hmc 3.13

MACHINERY CERTIFICATE WRITTEN

JWD 7/14/13. J. West + Insaluma Jb. Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.



Vertical text on the left margin: Richardson

Vertical text on the left margin: Certificate (if registered) to be sent to the Registrar of the Committee's Minutes.

Vertical text on the right margin: Date of writing Report, No. in Survey Reg. Book, on the, Master Donkey Boilers made at, Owners, VERTICAL Made at, tested by hydraulic, No. of safety valves, enter the donkey boiler, strength 28-32, Lap of plating, Radius of do, We request the, Richardsons West, specially Surveyed which, We hereby engage, For boilers up to 2 Horse Power, one shi, above 200. The Nomin, than £2 2s., MEM.—In excepti, all cases where travel, to be defrayed by the, request is made up, gn Shipping, which, the Committee use their, that neither the Committe, or certificate issued by the, or any error of judgment, Secretary, Lloyd's Register of