

REPORT ON MACHINERY.

No. 19383

Port of Hull

Received at London Office **THUR. 12 SEP 1907**

No. in Survey held at Hull Date, first Survey Mar. 22 Last Survey Aug. 30 1907
Reg. Book. on the S. / Trawler TOKIO (Number of Visits 25)

Master Per Schmitt Built at Selby By whom built Bochane & Sons Tons { Gross 295
Net 114 When built 1907

Engines made at Hull By whom made Ames & Smith when made 1907-8

Boilers made at Hull By whom made Hull when made Hull

Registered Horse Power 87.5 Owners Pickering & Haldane & Co. Ltd. Port belonging to Hull
Nom. Horse Power as per Section 28 87.5 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted No

ENGINES, &c.—Description of Engines Trip No. of Cylinders 3 No. of Cranks 3

Dia. of Cylinders 13" x 22 1/2" x 37" Length of Stroke 24" Revs. per minute 115 Dia. of Screw shaft 7 1/2" Material of screw shaft 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 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'-0"

Dia. of Tunnel shaft 7 1/2" Dia. of Crank shaft journals 7 1/2" Dia. of Crank pin 7 1/2" Size of Crank webs 14 1/2" x 4 1/2" Dia. of thrust shaft under collars 7 1/2" Dia. of screw 9 1/4" Pitch of Screw 10'-9" No. of Blades 4 State whether moveable No Total surface 29 ft

No. of Feed pumps 2 Diameter of ditto 2 3/4" Stroke 12" Can one be overhauled while the other is at work Yes

No. of Bilge pumps 2 Diameter of ditto 2 3/4" Stroke 12" Can one be overhauled while the other is at work Yes

No. of Donkey Engines 1 Sizes of Pumps 6" x 3" x 6" No. and size of Suctions connected to both Bilge and Donkey pumps In Engine Room 2-2" (Fwd & Aft) In Holds, &c. 3-2" (Fore hold, main hold, stow well)

No. of Bilge Injections 1 sizes 3" Connected to condenser, or to circulating pump London Is a separate Donkey Suction fitted in Engine room & size 2" diam.

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 Hot air 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

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 29.5.07 of Stern Tube 29.5.07 Screw shaft and Propeller 29.5.07

Is the Screw Shaft Tunnel watertight None Is it fitted with a watertight door Yes worked from None

BOILERS, &c.—(Letter for record E.) Manufacturers of Steel Steel Co of Scotland & Messrs. James Thomson

Total Heating Surface of Boilers 1488 ft Is Forced Draft fitted No No. and Description of Boilers 1, S.E. Multitubular

Working Pressure 200 lbs. Tested by hydraulic pressure to 400 Date of test 26.7.07 No. of Certificate 1577

Can each boiler be worked separately Yes Area of fire grate in each boiler 46.25 ft No. and Description of Safety Valves to each boiler 2, Spring Loaded Area of each valve 9 1/2" x 9 1/2" Pressure to which they are adjusted 205 lbs. Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork 7" Mean dia. of boilers 17'-3" Length 10'-6" Material of shell plates Steel

Thickness 1 3/16" Range of tensile strength 28-32 Are the shell plates welded or flanged No Descrip. of riveting: cir. seams S.P. Lap long. seams S.P.S. Lap

Diameter of rivet holes in long. seams 1 3/16" Pitch of rivets 8 1/2" Lap of plates or width of butt straps 17 1/2"

Per centages of strength of longitudinal joint rivets 85.5 Working pressure of shell by rules 200 Size of manhole in shell 16" x 12"

Size of compensating ring 40 x 30 x 1 3/16" No. and Description of Furnaces in each boiler 3 plain Material Steel Outside diameter 3' 2 1/2"

Length of plain part top 5'-7" bottom 5'-1 1/2" Thickness of plates crown 3 1/4" bottom 3 1/4" Description of longitudinal joint Welded No. of strengthening rings 1

Working pressure of furnace by the rules 211 Combustion chamber plates: Material Steel Thickness: Sides 2 1/2" Back 2 1/2" Top 5" Bottom 2 1/2"

Pitch of stays to ditto: Sides 9 1/2" x 8 1/2" Back 9 1/2" x 8 1/2" Top 8 1/2" x 7 1/2" If stays are fitted with nuts or riveted heads Yes Working pressure by rules 211

Material of stays Steel Diameter at smallest part 1 1/2" Area supported by each stay 63.71 ft Working pressure by rules 220 End plates in steam space: Material Steel Thickness 1 1/8" Pitch of stays 17' x 15 1/2" How are stays secured With nuts Working pressure by rules 202 Material of stays Steel

Diameter at smallest part 6' 1" Area supported by each stay 263.5 ft Working pressure by rules 231 Material of Front plates at bottom Steel

Thickness 3 1/2" Material of Lower back plate Steel Thickness 5 1/8" Greatest pitch of stays 15" Working pressure of plate by rules 200

Diameter of tubes 3 1/2" Pitch of tubes 4 3/4" x 4 3/4" Material of tube plates Steel Thickness: Front 3 1/2" Back 7" Mean pitch of stays 9 1/2" x 9 1/2"

Pitch across wide water spaces 14" Working pressures by rules 208 Girders to Chamber tops: Material Iron Depth and thickness of girder at centre 4 1/2" x 2" Length as per rule 2'-10" Distance apart 8 1/2" Number and pitch of stays in each 30 7 1/2"

Working pressure by rules 209 Superheater or Steam chest; how connected to boiler None Can the superheater be shut off and the boiler worked separately Yes

Diameter Yes Length Yes Thickness of shell plates Yes Material Yes Description of longitudinal joint Yes Diam. of rivet holes Yes Pitch of rivets Yes Working pressure of shell by rules Yes Diameter of flue Yes Material of flue plates Yes Thickness Yes

If stiffened with rings Yes Distance between rings Yes Working pressure by rules Yes End plates: Thickness Yes How stayed Yes

Working pressure of end plates Yes Area of safety valves to superheater Yes Are they fitted with easing gear Yes

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 _____ 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 rods with nuts
Two main bearing bolts, one set of coupling bolts & nuts, one set of feed
screw pump valves, Main & donkey feed check valves, Assorted bolts & nuts.*

The foregoing is a correct description,
Manufacturer.

FOR AMOS & SMITH

W. J. A. S.

Dates of Survey while building { During progress of work in shops - - *Mar. 22, Apr. 5, May 2, 15, 17, 22, 24, 27, 28, 29, 30* MANAGING PARTNER. *W. J. A. S.* *June 5, 22.*
During erection on board vessel - - *July 1, 10, 20, 24, 26, Aug. 10, 21.*
Total No. of visits *25* Is the approved plan of main boiler forwarded herewith *Yes*

Dates of Examination of principal parts—Cylinders *12.8.07* Slides *26.7.07* Covers *20.7.07* Pistons *20.7.07* Rods *22.7.07*
Connecting rods *5.4.07* Crank shaft *24.8.07* Thrust shaft *24.8.07* Tunnel shafts ✓ Screw shaft *27.8.07* Propeller *27.8.07*
Stern tube *15.5.07* Steam pipes tested *20.8.07* Engine and boiler seatings *29.8.07* Engines holding down bolts *21.8.07*
Completion of pumping arrangements *24.8.07* Boilers fixed *14.8.07* Engines tried under steam *24.8.07*
Main boiler safety valves adjusted *24.8.07* Thickness of adjusting washers *P 5/16 S 5/16*
Material of Crank shaft *Steel* Identification Mark on Do. *365 24.8.07 5/16* Material of Thrust shaft *Steel* Identification Mark on Do. *365 24.8.07 5/16*
Material of Tunnel shafts ✓ Identification Marks on Do. ✓ Material of Screw shafts *Steel* Identification Marks on Do. *365 24.8.07 5/16*
Material of Steam Pipes *Steel drawn copper* Test pressure *400 lb.*

General Remarks (State quality of workmanship, opinions as to class, &c.)
*The engine & boiler of this vessel have been constructed under special
Survey, and of good material & workmanship, have been fitted & received
on board in accordance with the Rules. They are now in good working
condition, and eligible in my opinion to have the notation of
L.M.C. 8.07 in the Register Book.*

It is submitted that
this vessel is eligible for
THE RECORD

L.M.C. 8.07

W. J. A. S.
13/9/07

The amount of Entry Fee. . . £ *7.00* When applied for, _____
Special £ *10.2.0* _____
Donkey Boiler Fee £ _____ When received, _____
Travelling Expenses (if any) £ *11.8* _____

John. W. Gwynne
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute **FRI. 13 SEP 1907**

Assigned *L.M.C. 8.07*

Certificate (if required) to be sent to

The Surveyors are requested not to write on or below the space for Committee's Minute.

