

REPORT ON MACHINERY.

Port of Hull

Received at London Office

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No. in Survey held at Hull

Date, first Survey Dec. 11/05 Last Survey 11 Aug 1906

Reg. Book.

1039 on the Screw Steamer "Brutus"

(Number of Visits 26)

Tons } Gross 311

Net 119

Master _____ Built at Hull By whom built Carlisle & Co. Ltd. When built 1906

Engines made at Hull By whom made Amos & Smith when made 1906

Boilers made at do By whom made do when made 1906

Registered Horse Power _____ Owners Hullers' Steam Fishing Co. Port belonging to Hull

Nom. Horse Power as per Section 28 96 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted No

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

Dia. of Cylinders 14", 23", 38" Length of Stroke 27" Revs. per minute 112 Dia. of Screw shaft as per rule 8.1" Material of screw shaft Steel
 as fitted 8.75"

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'-4"

Dia. of Tunnel shaft as per rule 7.18" Dia. of Crank shaft journals as per rule 7.54" Dia. of Crank pin 8" Size of Crank webs 12 1/2 x 5" Dia. of thrust shaft under collars 8" Dia. of screw 10'-0" Pitch of Screw 11'-6" to 12'-6" No. of Blades 4 State whether moveable No Total surface 30.6 sq. ft.

No. of Feed pumps 2 Diameter of ditto 2 5/8" Stroke 18" Can one be overhauled while the other is at work yes

No. of Bilge pumps 2 Diameter of ditto 2 5/8" Stroke 18" Can one be overhauled while the other is at work yes

No. of Donkey Engines One Sizes of Pumps 6 x 4 1/4 x 6" No. and size of Suctions connected to both Bilge and Donkey pumps In Engine Room One 2 1/4" dia. In Holds, &c. One 2 1/4" main hold, one 2" fore hold. Ejector suction from all bilges + discharge on deck.

No. of Bilge Injections 1 sizes 4 Connected to condenser, or to circulating pump Pumps a separate Donkey Suction fitted in Engine room of size 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 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 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 23/5/06 of Stern Tube 23/5/06 Screw shaft and Propeller 23/5/06

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

BOILERS, &c.—(Letter for record (5) Manufacturers of Steel Zschewalzywerk Schulz Knauddt.

Total Heating Surface of Boilers 1665 sq. ft. Forced Draft fitted No No. and Description of Boilers One S.E. cyl. Knauddt.

Working Pressure 185 lbs Tested by hydraulic pressure to 370 lbs Date of test 19.6.06 No. of Certificate 1479

Can each boiler be worked separately ✓ Area of fire grate in each boiler 5.5 sq. ft. No. and Description of Safety Valves to each boiler Two direct spring Area of each valve 5.93 sq. in. Pressure to which they are adjusted 190 lbs Are they fitted with easing gear yes

Smallest distance between boilers or uptakes and bunkers or woodwork 5" Mean dia. of boilers 14'-0" Length 10'-7 1/2" Material of shell plates Steel

Thickness 1 5/32" Range of tensile strength 28-32 Tons Are the shell plates welded or flanged No Descrip. of riveting: cir. seams DR Lap long. seams DR S. Rivet Diameter of rivet holes in long. seams 1 9/32" Pitch of rivets 8 1/2" Gap of plates or width of butt straps 18 3/4"

Per centages of strength of longitudinal joint rivets 95.1 plate 85.3 Working pressure of shell by rules 185 lbs Size of manhole in shell 16 x 12"

Size of compensating ring 40 x 30 x 1 1/2" No. and Description of Furnaces in each boiler Three plain Material Steel Outside diameter 41 1/32"

Length of plain part top 5'-10" bottom 5'-5 1/2" Thickness of plates crown 4.9" bottom 6.4" Description of longitudinal joint welded No. of strengthening rings ✓

Working pressure of furnace by the rules 192 lbs Combustion chamber plates: Material Steel Thickness: Sides 1 1/16" Back 1 1/16" Top 1 1/16" Bottom 1 1/16"

Pitch of stays to ditto: Sides 8 3/4 x 7 1/2" Back 8 x 8 1/4" Top 7 1/2 x 7 3/4" If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 247 lbs

Material of stays Steel Diameter at smallest part 1 1/2" Area supported by each stay 55.2 Working pressure by rules 214 lbs End plates in steam space: Material Steel Thickness 1 1/16" Pitch of stays 18 x 15 1/2" How are stays secured to nuts + rivets + screwed into end plates. Working pressure by rules 191 lbs Material of stays Steel

Area at smallest part 6.1 sq. in. Area supported by each stay 279 Working pressure by rules 218 lbs Material of Front plates at bottom Steel

Thickness 1 5/16" Material of Lower back plate Steel Thickness 1 5/16" Greatest pitch of stays 14" Working pressure of plate by rules 230 lbs

Diameter of tubes 3 1/4" Pitch of tubes 4 1/2 x 4 3/4" Material of tube plates Steel Thickness: Front 1 5/16" Back 27/32" Mean pitch of stays 9 1/4"

Pitch across wide water spaces 14" Working pressures by rules 195 lbs Girders to Chamber tops: Material Iron Depth and thickness of girder at centre 9 1/2 x 1 3/4" Length as per rule 2-10" Distance apart 7 3/4" Number and pitch of stays in each 3 @ 7 1/2"

Working pressure by rules 200 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 ✓

