

REPORT ON MACHINERY.

Port of Hull

Received at London Office FRI. 19 OCT 1906

No. in Survey held at *Hull Goole* Date, first Survey *May 21st* Last Survey *9th Oct* 1906
 Reg. Book. *19* on the *Steel S. S. "Grebe"* (Number of Visits *29*)
 Master *Goole* Built at *Goole* By whom built *Goole S. O. R. Co. Ltd* Tons {Gross *172* Net *52*
 Engines made at *Hull* By whom made *Messrs Earles Co. Ltd* when made *1906*
 Boilers made at *Hull* By whom made *Messrs Earles Co. Ltd* when made *1906*
 Registered Horse Power *53* Owners *Kelsall Bros. & Buching, Ltd.* Port belonging to *Hull*
 Is Refrigerating Machinery fitted for cargo purposes *No* Is Electric Light fitted *No*

ENGINES, &c.—Description of Engines *Triple Expansion* No. of Cylinders *3* No. of Cranks *3*
 Dia. of Cylinders *12" - 20" - 32"* Length of Stroke *21"* Revs. per minute *105* Dia. of Screw shaft *as per rule 6.75" as fitted 7.5"* Material of screw shaft *Iron*
 Is the screw shaft fitted with a continuous liner the whole length of the stern tube *No* 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 *Two separate liners* 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 *No* Length of stern bush *32.5"*
 Dia. of ~~Propeller~~ ^{plain part} shaft *as per rule 5.68" as fitted 6.4"* Dia. of Crank shaft journals *as per rule 5.96" as fitted 6.4"* Dia. of Crank pin *6"* Size of Crank webs *11.5" x 4"* Dia. of thrust shaft under
 collars *6.4"* Dia. of screw *9" - 9"* Pitch of Screw *9" - 6" to 10" - 6"* No. of Blades *4* State whether moveable *No* Total surface *26 sq ft*
 No. of Feed pumps *1* Diameter of ditto *2.5"* Stroke *10"* Can one be overhauled while the other is at work
 No. of Bilge pumps *1* Diameter of ditto *2.5"* Stroke *10"* Can one be overhauled while the other is at work
 No. of Donkey Engines *One* Sizes of Pumps *4" x 2.5" x 4"* No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room *Two two inches* In Holds, &c. *One 2" to hold, One 2" to tank, +*
Ejector suction from Eng. Room Bilge, hold, tank, and discharge on deck
 No. of Bilge Injections *1* sizes *3.5"* Connected to condenser, or to circulating pump *pump* Is a separate Donkey Suction fitted in Engine room & size *Yes 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 *0*
 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 tank 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 *22.8.06* of Stern Tube *22.8.06* Screw shaft and Propeller *22.8.06*
 Is the Screw Shaft Tunnel watertight *Is it fitted with a watertight door worked from*

BOILERS, &c.—(Letter for record *5*) Manufacturers of Steel *Hoelder Bergwerks Herten Verein*
 Total Heating Surface of Boilers *900 sq ft* Is Forced Draft fitted *No* No. and Description of Boilers *One Cyl. Multi*
 Working Pressure *160 lbs* Tested by hydraulic pressure to *320 lbs* Date of test *17.9.06* No. of Certificate *1504*
 Can each boiler be worked separately *Area of fire grate in each boiler 24.5 sq ft* No. and Description of Safety Valves to
 each boiler *Two Spring* Area of each valve *3.14 sq ft* Pressure to which they are adjusted *165 lbs* Are they fitted with easing gear *Yes*
 Smallest distance between boilers or uptakes and bunkers or woodwork *12"* Mean dia. of boilers *10" - 6"* Length *9" - 6"* Material of shell plates *Steel*
 Thickness *37/32"* Range of tensile strength *28 - 32 tons* Are the shell plates welded or flanged *No* Descrip. of riveting: cir. seams *L. D.*
 long. seams *D. B. S. J. R.* Diameter of rivet holes in long. seams *1.76"* Pitch of rivets *5.5"* Lap of plates or width of butt straps *11.5"*
 Per centages of strength of longitudinal joint rivets *86.7* Working pressure of shell by rules *160 lbs* Size of manhole in shell *16" x 12"*
 plate *80.2* Size of compensating ring *30" x 28" x 37/32"* No. and Description of Furnaces in each boiler *Two plain* Material *Steel* Outside diameter *2" - 10"*
 Length of plain part top *5" - 10"* Thickness of plates crown *37/32"* Description of longitudinal joint *Welded* No. of strengthening rings *0*
 bottom *37/32"* Working pressure of furnace by the rules *185 lbs* Combustion chamber plates: Material *Steel* Thickness: Sides *5/8"* Back *5/8"* Top *5/8"* Bottom *5/8"*
 Pitch of stays to ditto: Sides *8.5" - 8.5"* Back *10" x 9"* Top *8.5" x 7.5"* If stays are fitted with nuts or riveted heads *Nuts* Working pressure by rules *164 lbs*
 Material of stays *Steel* Diameter at smallest part *1.5"* Area supported by each stay *72.75 sq ft* Working pressure by rules *194 lbs* End plates in steam space:
 Material *Steel* Thickness *7/8"* Pitch of stays *15" x 15"* How are stays secured *D. Nuts* Working pressure by rules *161 lbs* Material of stays *Steel*
 Diameter at smallest part *2.56"* Area supported by each stay *225 sq ft* Working pressure by rules *187 lbs* Material of Front plates at bottom *Steel*
 Thickness *7/8"* Material of Lower back plate *Steel* Thickness *7/8"* Greatest pitch of stays *14"* Working pressure of plate by rules *190 lbs*
 Diameter of tubes *3"* Pitch of tubes *4.5" - 4.5"* Material of tube plates *Steel* Thickness: Front *7/8"* Back *1.5"* Mean pitch of stays *9"*
 Pitch across wide water spaces *13.5"* Working pressures by rules *161 lbs* Girders to Chamber tops: Material *Steel* Depth and
 thickness of girder at centre *7.5" x 1.5"* Length as per rule *2" - 2"* Distance apart *7.5"* Number and pitch of stays in each *2 - 8.5"*
 Working pressure by rules *228 lbs* 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 to superheater Are they fitted with easing gear*

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 each top and bottom end connecting rod bolts and nuts, two main bearing bolts and nuts, one set coupling bolts and nuts, one set each, air, circulating, feed and bilge pump valves, and a quantity of assorted bolts and nuts etc.

The foregoing is a correct description,

FOR EARLE'S

Manufacturer.

F. J. Salter Secretary

Dates of Survey while building: During progress of work in shops - 1906 - May 21, 29, Jun 1, 8, 13, 18, 25, 27, Jul 2, 11, 17, 21, 27, Aug 13, 16, 22, 23, Sep 12, 14, 17, 18, 19, 26, 27, 28, 29. During erection on board vessel - Oct 1, 3, 9.

Total No. of visits 29.

Is the approved plan of main boiler forwarded herewith *sent on with Rpt 8° 1854*

" " " donkey " " "

Dates of Examination of principal parts—Cylinders 17.7.06 Slides 2.7.06 Covers 2.7.06 Pistons 2.7.06 Rods 21.7.06

Connecting rods 21.7.06 Crank shaft 25.6.06 Thrust shaft 25.6.06 Tunnel shafts _____ Screw shaft 16.8.06 Propeller 16.8.06

Stern tube 16.8.06 Steam pipes tested 28.9.06 Engine and boiler seatings 26.9.06 Engines holding down bolts 29.9.06

Completion of pumping arrangements 3.10.06 Boilers fixed 1.10.06 Engines tried under steam 1.10.06

Main boiler safety valves adjusted 1.10.06 Thickness of adjusting washers $\frac{3}{8}$ " - $\frac{3}{8}$ "

Material of Crank shaft *Steel* Identification Mark on Do. *1713 ATG* Material of Thrust shaft *Iron* Identification Mark on Do. *1716 ATG*

Material of Tunnel shafts _____ Identification Marks on Do. _____ Material of Screw shafts *Iron* Identification Marks on Do. *1712 ATG*

Material of Steam Pipes *Solid drawn Copper* Test pressure *400 lbs per sq. inch*

General Remarks (State quality of workmanship, opinions as to class, &c.) *The engines and boiler of this vessel have been constructed under special survey in accordance with the Rules. The materials and workmanship are good. The boiler tested by hydraulic pressure, and with the engines placed on board and tested under steam. They are now in good order and safe working condition, and respectfully submitted as being eligible in my opinion to be classed with the record of $\frac{1}{2}$ L.M.C. 10.06 in the Register Book.*

The engines and boiler as above are similar to those fitted on the "Goose" 7° 26 in supplement to Register Book.

It is submitted that this vessel is eligible for THE RECORD H.L.M.C. 10.06.

The amount of Entry Fee. £ 1 : : : : When applied for. *18/10/06*

Special £ 8 : : : : When received. *27/12/06*

Donkey Boiler Fee £ . : : : : *12 8*

Travelling Expenses (if any) £ . : : : : *28/12/06*

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

TUES. 23 OCT 1906

Committee's Minute

Assigned

+ L.M.C. 10.06



Write "Sheer Strake" opposite its corresponding letter.

Certificate (if required) to be sent to _____

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

If so, in the margin, of green ink it is seen.