

REPORT ON MACHINERY.

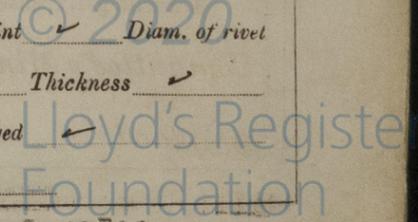
Received at London Office

THUR. 16 DEC 1909

Date of writing Report 19 When handed in at Local Office 11. 12. 10 Port of St. Helens
 No. in Survey held at Middlesbrough Date, First Survey 9th Dec. 1909 Last Survey 9th Dec. 1909
 Reg. Book. 35 on the Screw Steamer "Gladys" (Number of Visits 28 Gross 356 Net 173)
 Master E. J. Moran Built at Goole By whom built Goole S.B. & R. Co. Ltd When built 1909
 Engines made at Middlesbrough By whom made Richardsons, Westgarth & Co. Ltd when made 1909
 Boilers made at do By whom made do when made 1909
 Registered Horse Power 77 Owners Borneo Co. Ltd Port belonging to London
 Nom. Horse Power as per Section 28 77 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted No

ENGINES, &c.—Description of Engines Compound No. of Cylinders 2 No. of Cranks 2
 Dia. of Cylinders 18", 36" Length of Stroke 24" Revs. per minute 120 Dia. of Screw shaft as per rule 7.6" 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'-5"
 Dia. of Tunnel shaft as per rule 7.16" Dia. of Crank shaft journals as per rule 7.5" Dia. of Crank pin 7.3" Size of Crank webs 12" x 5" Dia. of thrust shaft under collars 7.3" Dia. of screw 8'-6" Pitch of Screw 8'-9" No. of Blades 4 State whether moveable No Total surface 28 sq. ft.
 No. of Feed pumps 2 Diameter of ditto 2.5" Stroke 12" Can one be overhauled while the other is at work yes
 No. of Bilge pumps 2 Diameter of ditto 3" Stroke 12" Can one be overhauled while the other is at work yes
 No. of Donkey Engines Two Sizes of Pumps 6" x 5.5" x 6" 6" x 4" x 6" No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room Three 2.5" In Holds, &c. For'd hold one 2.5" After hold one 2.5" Immel well one 2.5"
 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 2.5"
 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 Both
 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 None How are they protected ✓
 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 3.1.10 of Stern Tube 30.11.09 Screw shaft and Propeller 30.11.09
 Is the Screw Shaft Tunnel watertight yes Is it fitted with a watertight door yes worked from top grating

BOILERS, &c.—(Letter for record (N)) Manufacturers of Steel John Spencer & Sons Ltd
 Total Heating Surface of Boilers 1494 sq. ft. Forced Draft fitted No No. and Description of Boilers One S.E. cyl. mult.
 Working Pressure 130 lbs Tested by hydraulic pressure to 260 lbs Date of test 11.11.09 No. of Certificate 4337
 Can each boiler be worked separately ✓ Area of fire grate in each boiler 52.3 sq. ft. No. and Description of Safety Valves to each boiler Two direct spring Area of each valve 8.2 Pressure to which they are adjusted 130 lbs Are they fitted with easing gear yes
 Smallest distance between boilers or uptakes and bunkers on woodwork 12" Mean dia. of boilers 13'-0" Length 10'-6" Material of shell plates Steel
 Thickness 29/32 Range of tensile strength 28.5 - 32 Are the shell plates welded or flanged No Descrip. of riveting: cir. seams St. Lap long. seams St. J. 3 Rivets Diameter of rivet holes in long. seams 1.8" Pitch of rivets 5.9/16 Lap of plates or width of butt straps 12.4"
 Per centages of strength of longitudinal joint rivets 88.3 Working pressure of shell by rules 144 lbs Size of manhole in shell 16" x 12"
 Size of compensating ring Flanged No. and Description of Furnaces in each boiler Three plain Material Steel Outside diameter 3'-4"
 Length of plain part top 7'-3.4" Thickness of plates crown 1.1" Description of longitudinal joint welded No. of strengthening rings Angle bottom 7'-2.2" bottom 1.6"
 Working pressure of furnace by the rules 145 Combustion chamber plates: Material Steel Thickness: Sides 5/8" Back 5/8" Top 5/8" Bottom 1.6"
 Pitch of stays to ditto: Sides 10.2" x 8" Back 10.2" x 9" Top 11" x 8.5" If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 142 lbs
 Material of stays S. J. Rivets Diameter at smallest part 2.09 Area supported by each stay 94.5 Working pressure by rules 166 End plates in steam space: Material Steel Thickness 1.32 Pitch of stays 20" x 18.5" How are stays secured St. J. Rivets Working pressure by rules 136 lbs Material of stays Steel Diameter at smallest part 4.9 Area supported by each stay 315 Working pressure by rules 161 Material of Front plates at bottom Steel Thickness 27/32 Material of Lower back plate Steel Thickness 13/16 Greatest pitch of stays 16.2" x 8.5" Working pressure of plate by rules 132
 Diameter of tubes 3.4" Pitch of tubes 4.2" x 4.3" Material of tube plates Steel Thickness: Front 27/32 Back 11/16 Mean pitch of stays 11.8"
 Pitch across wide water spaces 14.2" Working pressures by rules 135 lbs Girders to Chamber tops: Material Steel Depth and thickness of girder at centre 7.2" x 1.2" Length as per rule 2'-3.5" Distance apart 11" Number and pitch of stays in each 2 @ 8.5"
 Working pressure by rules 152 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. *None* 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 _____ Date 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. Main + donkey feed check valves. Assorted bolts + nuts etc.*

The foregoing is a correct description,

ANDERSONS, WESTGARTH & Co. Ltd Manufacturer.

A. Jackson.

Dates of Survey while building: During progress of work in shops: 1909. Sept. 8, 14, 16, 21, 24, 28. Oct. 1, 5, 9, 11, 14, 16, 20, 21, 23, 29. Nov. 2, 4, 9, 11, 12, 19.
 During erection on board vessel: 25, 26, 27, 28, 29, 30, 1, 7, 9. Hull: 1909. Nov. 10, 11, 12, 22, 23, 25. Dec. 17, 20, 26. 1910. Jan. 3.
 Total No. of visits: 28 + 10 = 38.

Is the approved plan of main boiler forwarded herewith *yes*

Dates of Examination of principal parts—Cylinders 12.11.09 Slides 12.11.09 Covers 19.11.09 Pistons 11.11.09 Rods 11.11.09
 Connecting rods 11.11.09 Crank shaft 12.10.09 Thrust shaft 25.11.09 Tunnel shafts 25.11.09 Screw shaft 25.11.09 Propeller 25.11.09
 Stern tube 25.11.09 Steam pipes tested 3.12.09 Engine and boiler seatings 21.11.09 Engines holding down bolts 3.12.09
 Completion of pumping arrangements 28.12.09 Boilers fixed 2.12.09 Engines tried under steam 9.12.09
 Main boiler safety valves adjusted 9.12.09 Thickness of adjusting washers 7/16"

Material of Crank shaft *Steel* Identification Mark on Do. *4850CJM* Material of Thrust shaft *Steel* Identification Mark on Do. *4822KH*
 Material of Tunnel shafts *Steel* Identification Marks on Do. *4825KH* Material of Screw shafts *Steel* Identification Marks on Do. *5626JH*
 Material of Steam Pipes *Solid drawn copper* Test pressure *260 lbs*

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

The Engines and Boiler 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 our opinion eligible to have the notation of +LMC 12.09. in the Register Book.

Date of build of Engines 1910. It is submitted that this vessel is eligible for THE RECORD. + LMC. 1. 10.

JWD
JM
19/1/10
J. Kest
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

The amount of Entry Fee . . . £ 1 : 0 :
 Special . . . £ 11 : 11 :
 Donkey Boiler Fee . . . £ : :
 Travelling Expenses (if any) £ : :
 When applied for, 15. 12. 09
 When received, at Lon 20-12-1909

Committee's Minute **TUES. 25 JAN 1910**

Assigned *+ LMC 12 09*



FLA (If GAB Sta this way) Write "Sheer Strake" opposite its corresponding letter. DOU Len an thick POOL RAIS BRIL FOR LENS man Plate Has FRA REV LOWE Bows Top Rig Sails Equi Numb Certif 35L 35L 355 355 Numb Certif 367 Iron Steel Steel V Boats Pump Windl Engine What Coal Numb Ceiling Cargo State si Numb Bulwa The ab Builder Rpt.

Middlesbrough

Certificate (if required) to be sent to

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

No. of sets of Engine One No. of Shafts One Under Space Turre Fore Bridg Poop Side Round Deck Chart Space Sec 189 Exces Deduc NOTE. No. of Name, Dated