

REPORT ON MACHINERY.

No. 71687

Received at London Office

SAT. JUL. 11. 1914

Date of writing Report 10 JUL 1914 When handed in at Local Office 10 JUL 1914 Port of LIVERPOOL

No. in Survey held at Queensferry Date, First Survey 9 Dec 13 Last Survey 27 June 1914

Reg. Book. 535 on the Twin Motor Barge "Kingsholm" (Number of Visits 10)

Master Built at Queensferry By whom built J. J. Abdala & Mitchell Ltd. When built 1914

Engines made at Stockholm By whom made J. G. Bolinders & Co. Ltd. when made 1913

Boilers made at By whom made when made

Registered Horse Power 100 Owners William Butler Port belonging to Bristol

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

ENGINES, &c.—Description of Engines Twin 2 cyl. 2 stroke cycle See 1st entry Stockholm Rpts 1243+4

Dia. of Cylinders 10 5/8" Length of Stroke 11" Revs. per minute 375 Dia. of Screw shaft as per rule Material of screw shaft steel

Is the screw shaft fitted with a continuous liner the whole length of the stern tube no liners Is the after end of the liner made water tight in the propeller boss ✓ 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

Dia. of Tunnel shaft as per rule Dia. of Crank shaft journals as per rule Dia. of Crank pin 115 Size of Crank webs 150x57.5 Dia. of thrust shaft under collars 92 Dia. of screw 3-6 Pitch of Screw 2-7 1/2 No. of Blades 3 State whether moceable no Total surface 4.5 sq

No. of Feed pumps 1 Diameter of ditto 100 Stroke 70 Can one be overhauled while the other is at work ✓

No. of Bilge pumps Diameter of ditto Stroke Can one be overhauled while the other is at work

No. of Donkey Engines One Sizes of Pumps Drum pump 3" 7000 gal pump No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room Drum pump Com - 1-3. Eng. pp - 1-2 In Holds, &c. Drum pp - 2-3. + Eng pp - 1-2

Crews space 1-2. St. Tank 1-3. A.P. 1-3

No. of Bilge Injections none sizes Connected to condenser, or to circulating pump ✓ Is a separate Donkey Suction fitted in Engine room & size 1-3

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 Cocks

Are they fixed sufficiently high on the ship's side to be seen without lifting the floor plates yes Are the Discharge Pipes above or below the deep water line yes

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 none

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 29-4-14 of Stern Tube 14-11-5-14 Screw shaft and Propeller 11-5-14

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

BOILERS, &c.—(Letter for record) Manufacturers of Steel

Total Heating Surface of Boilers Is Forced Draft fitted No. and Description of Boilers

Working Pressure Tested by hydraulic pressure to Date of test No. of Certificate

Can each boiler be worked separately Area of fire grate in each boiler No. and Description of Safety Valves to each boiler

Area of each valve Pressure to which they are adjusted Are they fitted with easing gear

Smallest distance between boilers or uptakes and bunkers or woodwork Mean dia. of boilers Length Material of shell plates

Thickness Range of tensile strength Are the shell plates welded or flanged Descrip. of riveting: cir. seams

long. seams Diameter of rivet holes in long. seams Pitch of rivets Lap of plates or width of butt straps

Per centages of strength of longitudinal joint Working pressure of shell by rules Size of manhole in shell

Size of compensating ring No. and Description of Furnaces in each boiler Material Outside diameter

Length of plain part Thickness of plates Description of longitudinal joint No. of strengthening rings

Working pressure of furnace by the rules Combustion chamber plates: Material Thickness: Sides Back Top Bottom

Pitch of stays to ditto: Sides Back Top If stays are fitted with nuts or riveted heads Working pressure by rules

Material of stays Diameter at smallest part Area supported by each stay Working pressure by rules End plates in steam space:

Material Thickness Pitch of stays How are stays secured Working pressure by rules Material of stays

Diameter at smallest part Area supported by each stay Working pressure by rules Material of Front plates at bottom

Thickness Material of Lower back plate Thickness Greatest pitch of stays Working pressure of plate by rules

Diameter of tubes Pitch of tubes Material of tube plates Thickness: Front Back Mean pitch of stays

Pitch across wide water spaces Working pressures by rules Girders to Chamber tops: Material Depth and thickness of girder at centre Length as per rule Distance apart Number and pitch of stays in each

Working pressure by rules 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 _____ 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:— Each Cyl. — 4 piston rings, 2 fuel injection nozzles, valve springs, 2 ball valves fuel, &c. 2 bottom end bearings, 4 ignition bulbs, 2 lamp burners, springs + valves for fuel pumps, + details.

The foregoing is a correct description,
 Manufacturer.

Dates of Survey while building { During progress of work in shops -- } 1913. Dec 9. 1914. Feb 5. Apr 29. May 1. 11. 18. June 19. 23. 25. 27.
 { During erection on board vessel --- }
 Total No. of visits 10. Is the approved plan of main boiler forwarded herewith _____

Dates of Examination of principal parts—Cylinders _____ Slides _____ Covers _____ Pistons _____ Rods _____
 Connecting rods _____ Crank shaft _____ Thrust shaft _____ Tunnel shafts _____ Screw shaft _____ Propeller _____
 Stern tube _____ Steam pipes tested _____ Engine and boiler seatings _____ Engines holding down bolts _____
 Completion of pumping arrangements _____ Boilers fixed _____ Engines tried under steam _____
 Main boiler safety valves adjusted _____ Thickness of adjusting washers _____
 Material of Crank shaft _____ Identification Mark on Do. _____ Material of Thrust shaft _____ Identification Mark on Do. _____
 Material of Tunnel shafts _____ Identification Marks on Do. _____ Material of Screw shafts _____ Identification Marks on Do. _____
 Material of Steam Pipes _____ Test pressure _____

General Remarks (State quality of workmanship, opinions as to class, &c.)
 The fuel tanks have been tested & found tight, & 3 air containers satisfactorily tested by hyd. pressure to 300 lbs.
 A CO₂ fire extinguisher + a sand box have been placed on board.
 These engines with fuel tanks, trays, + connections have been fitted on board in accordance with the rules, & found satisfactory under full working conditions.
 A mean speed of 7 1/2 Knots was attained at 350 revs. the lowest revs being about 200.

This machinery is in our opinion eligible to be classed & to have notation of **LMC 6. 14.**

It is submitted that this vessel is eligible for **THE RECORD. + LMC 6. 14.**

Oil engines 4 Cy. 10 5/8" - 11" 2 SC. SA.
 J & C G. Bolinders 8" C= Ld. SKM.

The amount of Entry Fee .. £ 2 : 0 : 0
 Special .. £ : :
 Donkey Boiler Fee .. £ : :
 Travelling Expenses (if any) £ 2 : 1 : 4

When applied for, 10 JUL 1914
 When received, 15 JUL 1914

(Annual Survey)
 A. J. Barrett + W. G. McKeown
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping

Committee's Minute LIVERPOOL 10 JUL 1914
 Assigned **LMC 6. 14**



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