

# REPORT ON MACHINERY.

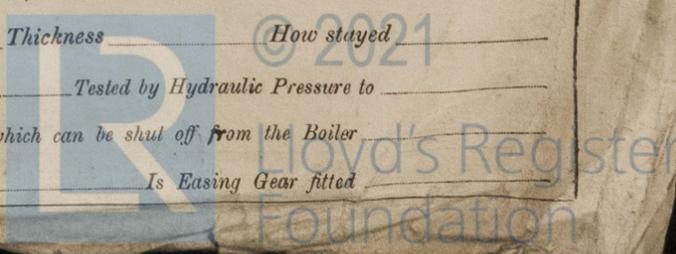
Received at London Office 10 JUL 1917

Date of writing Report 10 JUL 1917 When handed in at Local Office 10 JUL 1917 Port of London  
 No. in Survey held at Wivenhoe Date, First Survey 12<sup>th</sup> November 1915 Last Survey 12<sup>th</sup> June 1917  
 Reg. Book. on the Steel Motor Coaster Lutona (Number of Visits 12)  
 Master                      Built at Wivenhoe By whom built Penne Forest Shipbuilding Co. Ltd Tons }  
 Engines made at Stockholm By whom made J. + G. Bolinder's Co. Ltd when made 1915 Net }  
 Boilers made at                      By whom made                      when made                       
 Registered Horse Power 160 Owners James Pollock Sons & Co. Ltd. Port belonging to London  
 Nom. Horse Power as per Section 28                      Is Refrigerating Machinery fitted for cargo purposes                      Is Electric Light fitted                     

**ENGINES, &c.**—Description of Engines Bolinder, two stroke cycle, reversible, with air injection No. of Cylinders 2 No. of Cranks 2  
 Dia. of Cylinders 420<sup>7</sup>/<sub>16</sub> Length of Stroke 480<sup>7</sup>/<sub>16</sub> Revs. per minute 225 Dia. of Screw shaft as app<sup>d</sup> 6<sup>5</sup>/<sub>8</sub> Material of screw shaft Steel  
 Is the screw shaft fitted with a continuous liner the whole length of the stern tube No liner 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                      Length of stern bush 2-3"  
 Dia. of Tunnel shaft as app<sup>d</sup> 5<sup>1</sup>/<sub>2</sub> Dia. of Crank shaft journals as per rule 158<sup>7</sup>/<sub>16</sub> Dia. of Crank pin 174<sup>7</sup>/<sub>16</sub> Size of Crank webs 240<sup>7</sup>/<sub>16</sub> + 94<sup>5</sup>/<sub>16</sub> Dia. of thrust shaft under collars 150<sup>7</sup>/<sub>16</sub> Dia. of screw 5-3" Pitch of Screw 4-1" No. of Blades 3 State whether moveable No Total surface 10.4<sup>7</sup>/<sub>16</sub>  
 No. of Feed pumps                      Diameter of ditto                      Stroke                      Can one be overhauled while the other is at work                       
 No. of Bilge pumps one Diameter of ditto 100<sup>7</sup>/<sub>16</sub> Stroke 100<sup>7</sup>/<sub>16</sub> Can one be overhauled while the other is at work                       
 No. of Donkey Engines one, attached to motor winch Sizes of Pumps 100<sup>7</sup>/<sub>16</sub> 100<sup>7</sup>/<sub>16</sub> No. and size of Suctions connected to both Bilge and Donkey pumps In Engine Room Two 2" dia. In Holds, &c. Three 2" dia in hold, one 2 1/2 dia in fore peak, one 2 1/2 dia in after peak.  
 No. of Bilge Injections                      sizes                      Connected to condenser, or to circulating pump                      Is a separate Donkey Suction fitted in Engine room & size Yes, 2" dia.  
 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                       
 Are all connections with the sea direct on the skin of the ship Yes Are they Valves or Cocks Lock  
 Are they fixed sufficiently high on the ship's side to be seen without lifting the                      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                       
 What pipes are carried through the bunkers                      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  
 Is the Screw Shaft Tunnel watertight                      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                      rivets                      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                      Area 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                       
 Area 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                      Steam dome: description of joint to shell                      % of strength of joint                       
 Diameter                      Thickness of shell plates                      Material                      Description of longitudinal joint                      Diam. of rivet holes                       
 Pitch of rivets                      Working pressure of shell by rules                      Crown plates                      Thickness                      How stayed                     

**SUPERHEATER.** Type                      Date of Approval of Plan                      Tested by Hydraulic Pressure to                       
 Date of Test                      Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler                       
 Diameter of Safety Valve                      Pressure to which each is adjusted                      Is Easing Gear fitted                     



2530-547110-927110

IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:— 2 connecting rod top end bolts & nuts, 2 connecting rod bottom end bolts & nuts, 6 coupling bolts, 2 sets of valves for bilge pump, 3 bolts & nuts for upper end of cylinder, 1 bolt & nut for bottom end of cylinder, 1 screw for fastening thrust bearing, 1 bolt & nut for eccentric rod, 1 bolt & nut for tilting arm, 1 bolt & nut for regulator weight, 2 bolts for main bearing, 1 set valve for circulating pump.

The foregoing is a correct description,

Manufacturer.

Dates of Survey while building: During progress of work in shops -- 1915 Dec 12, 16, (1917) Feb. 22, 28, Mar. 18, 29, 30, April 11, May 19, 24, June 12. During erection on board vessel --- Total No. of visits 12

Is the approved plan of main boiler forwarded herewith

Is the approved plan of donkey 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, Completion of fitting sea connections, Stern tube, Screw shaft and propeller, 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, Is an installation fitted for burning oil fuel, Is the flash point of the oil to be used over 150°F., Have the requirements of Section 49 of the Rules been complied with, Is this machinery duplicate of a previous case, If so, state name of vessel.

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

The Engines were surveyed whilst being fitted into the vessel and found satisfactory, the fuel tanks were tested by hydraulic pressure to 10 lbs per sq. inch and found satisfactory.

The Engines tried under full power and worked smoothly & well, the speed of vessel on trial trip 7.95 Knts. per hour, revolutions full ahead 225 per minute, Astern 225 per min, lowest number of revolutions for manoeuvring 98-102. All the rule requirements for Internal combustion Engines have been carried out, & is now in my opinion eligible for the record of + L.M.C. 6-17 in the Register Book.

It is submitted that this vessel is eligible for THE RECORD. + L.M.C. 6.17.

Oil Engines. 2 Cy. 16 1/2" - 19"

J & C G. Belinders Ltd. Skm. 25C.S.A.

Signature: JWD 13/7/17 (Annual Survey)

The amount of Entry Fee ... £ 1-0-0, Special Survey ... £ 2-13-4, Donkey Boiler Fee ... £, Travelling Expenses (if any) £ 2-18-0

When applied for, 10/11/1917, When received, 4-9-1917

Signature: A.G. Farminer

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned

FRI 13 JUL 1917

+ L.M.C. 6.17 oil engines

MACHINERY CERTIFICATE WRITTEN

FRI NOV. 17 1922, FRI. 28 DEC. 1917, FRI. JUL 30 1919, TUE. 9 JUL 1919, TUE. AUG. 30 1921, FRI. 23 SEP. 1921

FRI. APR. 20 1922

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