

REPORT ON MACHINERY.

No. 24780

MON. APR. 1 - 1912

Received at London Office

Date of writing Report Mar 23 1912 When handed in at Local Office 30.3.12 Port of Hull
 No. in Survey held at Hull Date, First Survey Sep. 26th Last Survey Mar 18th 1912
 Reg. Book. 94 Suppon the 1/2 Trawler MERISIA (Number of Visits 37) Tons { Gross 291
 Master Selby Built at Selby By whom built Bochane & Sons Net 114
 Engines made at Hull By whom made Amos Smith Ltd When built 1912
 Boilers made at 5 By whom made 5 when made 5
 Registered Horse Power ✓ Owners Leewood Steam Towing & Light Co Port belonging to Leewood
 Nom. Horse Power as per Section 28 90 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted No

ENGINES, &c.—Description of Engines Inverted triple expansion No. of Cylinders 3 No. of Cranks 3
 Dia. of Cylinders 13.22 $\frac{3}{4}$.37 Length of Stroke 26 Revs. per minute 110 Dia. of Screw shaft 7.74 Material of screw shaft Iron
 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 33
 Dia. of Tunnel shaft 6.77 Dia. of Crank shaft journals 7.1 Dia. of Crank pin 7.3 Size of Crank webs 5x4 $\frac{3}{4}$ Dia. of thrust shaft under
 collars 7.3 Dia. of screw 9.8 Pitch of Screw 11.0 No. of Blades 4 State whether moveable Yes Total surface 34.4
 No. of Feed pumps one Diameter of ditto 2.7 Stroke 12 Can one be overhauled while the other is at work ✓
 No. of Bilge pumps one Diameter of ditto 2.7 Stroke 12 Can one be overhauled while the other is at work ✓
 No. of Donkey Engines one Sizes of Pumps 6x3x6 No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room 1.2 In Holds, &c. 2.2 Frederick & Hurrell
2" Green suction to all bilges with discharge to deck
 No. of Bilge Injections / sizes 3 Connected to condenser, or to circulating pump pump Is a separate Donkey Suction fitted in Engine room & size 2" Green
 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 Yes
 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 Hot 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 22.1.12 of Stern Tube 22.1.12 Screw shaft and Propeller 22.1.12
 Is the Screw Shaft Tunnel watertight None Is it fitted with a watertight door ✓ worked from ✓

BOILERS, &c.—(Letter for record S) Manufacturers of Steel Pewerhapp, Grills, Funks & Co.
 Total Heating Surface of Boilers 1590 Is Forced Draft fitted No No. and Description of Boilers 1. S.E. Multitubular
 Working Pressure 180 lbs. Tested by hydraulic pressure to 360 lbs. Date of test 23.2.12 No. of Certificate 1881
 Can each boiler be worked separately ✓ Area of fire grate in each boiler 47.5 No. and Description of Safety Valves to
 each boiler 2 Spring loaded Area of each valve 5.94 Pressure to which they are adjusted 185 Are they fitted with easing gear Yes
 Smallest distance between boilers or uptakes and bunkers or woodwork 1.10 Mean dia. of boilers 14.0 Length 10.6 Material of shell plates Steel
 Thickness 1.32 Range of tensile strength 29-33 Are the shell plates welded or flanged No Descrip. of riveting: cir. seams S.A. Rip.
 long. seams S.A. 5 unit Diameter of rivet holes in long. seams 1.52 Pitch of rivets 7.2 Lap of plates or width of butt straps 17.8
 Per centages of strength of longitudinal joint rivets 85.9 Working pressure of shell by rules 180 Size of manhole in shell 16x12
 plate 85.08 Size of compensating ring 40x30x1.8 No. and Description of Furnaces in each boiler 3 plain Material Steel Outside diameter 3.32
 Length of plain part 7.8 Thickness of plates 1.49 Description of longitudinal joint Welded No. of strengthening rings one
 bottom 27 crown 27 bottom 27 Working pressure of furnace by the rules 191 Combustion chamber plates: Material Steel Thickness: Sides 23 Back 11 Top 11 Bottom 23
 Pitch of stays to ditto: Sides 9x7.2 Back 9x9.2 Top 7.2x9 If stays are fitted with nuts or riveted heads No Working pressure by rules 192
 Material of stays Steel Diameter at smallest part 2.26 Area supported by each stay 107 Working pressure by rules 200 End plates in steam space:
 Material Steel Thickness 1.32 Pitch of stays 15x20.2 How are stays secured No washers Working pressure by rules 180 Material of stays Steel
 Diameter at smallest part 6.10 Area supported by each stay 315.4 Working pressure by rules 201 Material of Front plates at bottom Steel
 Thickness 27 Material of Lower back plate Steel Thickness 27 Greatest pitch of stays 14.2x9.2 Working pressure of plate by rules 270
 Diameter of tubes 3.2 Pitch of tubes 4.7x4.2 Material of tube plates Steel Thickness: Front 27 Back 27 Mean pitch of stays 9.4
 Pitch across wide water spaces 14.2 Working pressures by rules 197 Girders to Chamber tops: Material Steel Depth and
 thickness of girder at centre 9x2 Length as per rule 3.0 Distance apart 9 Number and pitch of stays in each 30x7.2
 Working pressure by rules 188 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. _____ 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 casing 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 _____
 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:— *Two top & two bottom end connecting rods & bolts, one set of main bearing bolts & nuts, one set of engine bolts & nuts, one set of feed & high pump valves, one main one donkey feed check valve, one set of air pump valves, one propeller, assorted bolts outside.*
 The foregoing is a correct description, **FOR AMOS & SMITH LTD.**

Manufacturer. *W. S. Hill* Managing Director
 Dates of Survey while building { During progress of work in shops -- } 1911:— Sep. 26. Nov. 14. 14. 16. 21. Dec. 1. 4. 6. 8. 11. 14. 19. 22. 29. 1912:— Jan. 2. 3. 5.
 { During erection on board vessel -- } Jan. 8. 13. 17. 22. 24. 26. Feb. 1. 6. 7. 13. 22. 23. 27. Mar. 2. 4. 5. 7. 8. 12. 13. 18
 Total No. of visits *37* Is the approved plan of main boiler forwarded herewith *yes* ✓

Dates of Examination of principal parts—Cylinders *1. 2. 12* Slides *13. 2. 12* Covers *1. 2. 12* Pistons *7. 2. 12* Rods *7. 2. 12*
 Connecting rods *7. 2. 12* Crank shaft *7. 2. 12* Thrust shaft *7. 2. 12* Tunnel shafts ✓ Screw shaft *14. 12. 11* Propeller *14. 12. 11*
 Stern tube *14. 12. 11* Steam pipes tested *7. 3. 12* Engine and boiler seatings *2. 3. 12* Engines holding down bolts *2. 3. 12*
 Completion of pumping arrangements *18. 3. 12* Boilers fixed *8. 3. 12* Engines tried under steam *12. 3. 12*
 Main boiler safety valves adjusted *12. 3. 12* Thickness of adjusting washers *P 3/8 S 3/8*
 Material of Crank shaft *Steel* Identification Mark on Do. *837. 7. 2. 12* Material of Thrust shaft *Steel* Identification Mark on Do. *837. 7. 2. 12*
 Material of Tunnel shafts ✓ Identification Marks on Do. ✓ Material of Screw shafts *Iron* Identification Marks on Do. *837. 14. 12. 11*
 Material of Steam Pipes *Solid drawn copper* ✓ Test pressure *360 lbs.* ✓

General Remarks (State quality of workmanship, opinions as to class, &c. *The machinery & boiler of this vessel have been constructed under Special Survey, are of good material & workmanship, have been fitted & secured in accordance with the Rules. They are now in good working condition & respectfully submitted as being eligible in my opinion to have record of 1-L.M.C. 3-12 in the Register Book*

It is submitted that this vessel is eligible for THE RECORD. + LMC 3.12.

J.W.D. J.P.R.
1/4/12

The amount of Entry Fee £ *100* When applied for: *25/3/1912*
 Special £ *13* When received: *30/3/1912*
 Donkey Boiler Fee £ *1*
 Travelling Expenses (if any) £ *0 2*

John W. Foyne
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute

TUE. APR. 2—1912

Assigned

+ LMC 3.12

EXAMINER CERTIFICATE
 WRITTEN



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