

REPORT ON MACHINERY.

No. 29849

Received at London Office

FRI. 16 MAR. 1917

Date of writing Report 19 When handed in at Local Office 1/31 19 17 Port of Hull

No. in Survey held at Hull Date, First Survey Jul. 9/15 Last Survey Feb 26 - 19 17

Reg. Book. 14 on the Steel S.S. "Motavia" (Number of Visits 57)

Master Built at Beverley By whom built Cook, Welton & Gemmill Tons { Gross 306 Net 121 When built 1917

Engines made at Hull By whom made Amos & Smith Ltd No. 2791. when made 1917.

Boilers made at Hull By whom made Amos & Smith Ltd when made 1917.

Registered Horse Power Owners Standard Steam Fishing Co. Port belonging to Grimsby

Nom. Horse Power as per Section 28 89. Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines Triple expansion No. of Cylinders 3 No. of Cranks 3

Dia. of Cylinders 13 1/2 - 22 1/2 - 37 Length of Stroke 24 Revs. per minute Dia. of Screw shaft 7.49 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 3' 0"

Dia. of Tunnel shaft 6.75 Dia. of Crank shaft journals 7.08 Dia. of Crank pin 7 1/2 Size of Crank webs 4 1/2 - 14 1/2 Dia. of thrust shaft under collars 7 1/2 Dia. of screw 9' 0" Pitch of Screw 11' 0" No. of Blades 4 State whether moveable No Total surface 29.5 sq ft

No. of Feed pumps 1 Diameter of ditto 2 7/8 Stroke 12 Can one be overhauled while the other is at work

No. of Bilge pumps 1 Diameter of ditto 3 Stroke 12 Can one be overhauled while the other is at work

No. of Donkey Engines 2 Sizes of Pumps 6 1/2 - 4 3/4 - 6 - 6 - 3 - 6 No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room 2 - 2" suction In Holds, &c. 1 - 2" suction to forecabin 1 - 2" to main fish room, 1 - 2" to main slush well, 1 - 2" to spare slush well.

No. of Bilge Injections 1 sizes 3" Connected to condenser, or to circulating pump Yes Is a separate Donkey Suction fitted in Engine room & size 2" ejector

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 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 4 - 2" Hold and slush well pipes 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

Is the Screw Shaft Tunnel watertight Is it fitted with a watertight door worked from

BOILERS, &c.—(Letter for record S.) Manufacturers of Steel The Steel Co. of Scotland

Total Heating Surface of Boilers 1595 sq ft Is Forced Draft fitted No No. and Description of Boilers One single ended

Working Pressure 185 lbs. Tested by hydraulic pressure to 370 lbs. Date of test 21.11.16 No. of Certificate 3177.

Can each boiler be worked separately Area of fire grate in each boiler 49.5 sq ft 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 lbs. Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork 8" Mean dia. of boilers 13' 6" Length 10' 6" Material of shell plates S.

Thickness 1 1/2" Range of tensile strength 28 - 32 Are the shell plates welded or flanged No Descrip. of riveting: cir. seams D.R. long. seams T.R.D.B.S. Diameter of rivet holes in long. seams 1 3/16 Pitch of rivets 8" Lap of plates or width of butt straps 17 1/2"

Per centages of strength of longitudinal joint rivets 91.5 Working pressure of shell by rules 185 Size of manhole in shell 16" - 12" plate 85.1

Size of compensating ring 40' 30" - 1 1/2" No. and Description of Furnaces in each boiler 3 Plain Material S. Outside diameter 39 3/32"

Length of plain part top 79 1/2" Thickness of plates crown 49 Description of longitudinal joint Welded No. of strengthening rings bottom 74 bottom 64

Working pressure of furnace by the rules 191 lbs. Combustion chamber plates: Material S. Thickness: Sides 11/16" Back 11/16" Top 11/16" Bottom 13/16"

Pitch of stays to ditto: Sides 9 1/2 - 7 1/2 Back 9 - 9 1/2 Top 10 - 8 1/2 If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 189.

Material of stays S. Area at smallest part 2.066 Area supported by each stay 85 sq in Working pressure by rules 219 End plates in steam space: Material S. Thickness 1 1/2" Pitch of stays 17" - 15" How are stays secured Secured with washers Working pressure by rules 196 Material of stays S.

Area at smallest part 6.10 Area supported by each stay 253 sq in Working pressure by rules 249 Material of Front plates at bottom S.

Thickness 1" Material of Lower back plate S. Thickness 15/16" Greatest pitch of stays 14 1/4" Working pressure of plate by rules 212

Diameter of tubes 3 1/4" Pitch of tubes 4 7/8 - 4 1/2" Material of tube plates S. Thickness: Front 1" Back 3/32" Mean pitch of stays 9 3/4 - 9"

Pitch across wide water spaces 14 1/4" Working pressures by rules 189 Girders to Chamber tops: Material S. Depth and thickness of girder at centre 9 1/2 - 1 3/4" Length as per rule 2.10 Distance apart 10" Number and pitch of stays in each 3 - 8 1/2"

Working pressure by rules 204 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

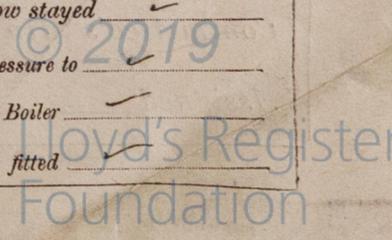
Pitch of rivets Working pressure of shell by rules Crown plates Thickness How stayed

UPERHEATER. 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 Valves Pressure to which each is adjusted Is Easing Gear fitted

W105-0053



IS A DONKEY BOILER FITTED? Yes

If so, is a report now forwarded? Yes

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 of coupling bolts and nuts, one set each feed and bilge pumps valves, iron of various sizes, a quantity of assorted bolts and nuts etc.

The foregoing is a correct description,
FOR AMOS & SMITH LTD.

Manufacturer.

Secretary 1916

Dates of Survey while building { During progress of work in shops -- } 1915: Jul 9, Oct 19, Nov 12, Dec 3, Mar 30, Apr 13, 18, 29, May 7, 13, 27, Jun 3, 10, 17, 24, Jul 2, 3, 8, 11, 22, 31, Aug 5, 12, 19, 26, Sep 1, 9, 16, 22, 30, Oct 7, 9, 14, 18, 23, 26, 28, Nov 1, 3, 4, 6, 7, 14, 15, 17, 21, 27, Dec 1, 4, 16, 19, 21, Jan 5, 10, 16, 23, 25, Feb 22, 26.
{ During erection on board vessel -- }
Total No. of visits 57 Is the approved plan of main boiler forwarded herewith Yes

Dates of Examination of principal parts—Cylinders 9.10.16 Slides 3.11.16 Covers 9.10.16 Pistons 18.10.16 Rods 18.10.16
Connecting rods 14.11.16 Crank shaft 1.11.16 Thrust shaft 7.11.16 Tunnel shafts ✓ Screw shaft 12.8.16 Propeller 26.8.16
Stern tube 26.8.16 Steam pipes tested 5.1.17 Engine and boiler seatings 26.8.16 Engines holding down bolts 16.1.17
Completion of pumping arrangements 26.2.17 Boilers fixed 16.1.17 Engines tried under steam 25.1.17
Completion of fitting sea connections 26.8.16 Stern tube 26.8.16 Screw shaft and propeller 26.8.16
Main boiler safety valves adjusted 25.1.17 Thickness of adjusting washers P. $\frac{13}{32}$ " S. $\frac{11}{32}$ "
Material of Crank shaft Iron Identification Mark on Do. 1.11.16 GA Material of Thrust shaft Iron Identification Mark on Do. 7.11.16 GA
Material of Tunnel shafts ✓ Identification Marks on Do. ✓ Material of Screw shafts Iron Identification Marks on Do. 12.8.16 GA
Material of Steam Pipes S. D. Copper Test pressure 400 lbs.
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 Yes
Is this machinery duplicate of a previous case Yes If so, state name of vessel "Lethon"

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

The machinery of this vessel has been constructed under special survey in accordance with the approved plans and the rules of this Society; the material and workmanship are good; the boiler and steam pipes have been tested as above by hydraulic pressure and found sound and good. The machinery has been properly fitted and secured on board and on completion tried under steam and found satisfactory. The safety valves have been adjusted under steam and tested for accumulation which did not exceed 190 lbs. per sq. inch.

In my opinion the vessel is eligible for the record L.M.C.
2-17

It is submitted that this vessel is eligible for THE RECORD. + L.M.C. 2.17.

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

The amount of Entry Fee	£ 1 : -	When applied for,
Special	£ 13 : 7	15-3-17
Donkey Boiler Fee	£ :	When received,
Travelling Expenses (if any)	£ : 2	31.3.17

Geo. Allan
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUE. 20 MAR. 1917
Assigned + L.M.C. 2.17

MACHINERY CERTIFICATE WRITTEN.

