

# REPORT ON MACHINERY.

No. 23602

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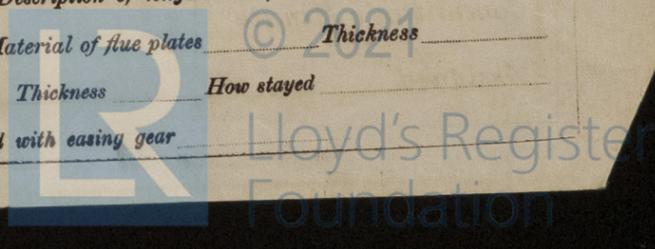
Date of writing Report Apr 20 1911 When handed in at Local Office 24/4/1911 Port of Hull  
 No. in Survey held at Hull Date, First Survey Sep 21<sup>st</sup> Last Survey Apr 12<sup>th</sup> 1911  
 Reg. Book. 17 (Number of Visits) 59  
 Name of vessel on the Trawler PHRONTIS Tons Gross 288 Net 114  
 Master Selby Built at Selby By whom built Bochane & Sons When built 1911  
 Engines made at Hull By whom made Amos & Smith Ltd. when made 5  
 Boilers made at 5 By whom made 5 when made 5  
 Registered Horse Power ✓ Owners Mount Steam Fishing & Ice Port belonging to Hestwood  
 Nom. Horse Power as per Section 28 90 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

**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 114 Dia. of Screw shaft 7-7 $\frac{3}{8}$  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 2-9  
 Dia. of Tunnel shaft 6-7 $\frac{3}{8}$  as per rule 7-1 Dia. of Crank shaft journals 7-3 as per rule 7-3 Dia. of Crank pin 7-3 Size of Crank webs 5 $\frac{1}{2}$  x 4 $\frac{3}{4}$  Dia. of thrust shaft under collars 7-3 $\frac{3}{4}$  Dia. of screw 9-8 Pitch of Screw 11-0 No. of Blades 4 State whether moveable No Total surface 34 $\frac{1}{2}$   
 No. of Feed pumps 2 Diameter of ditto 2 $\frac{3}{8}$  Stroke 12 Can one be overhauled while the other is at work Yes  
 No. of Bilge pumps 2 Diameter of ditto 2 $\frac{3}{8}$  Stroke 12 Can one be overhauled while the other is at work Yes  
 No. of Donkey Engines One Sizes of Pumps 6 x 3 x 6 No. and size of Suctions connected to both Bilge and Donkey pumps In Engine Room 1-2 (Aft) In Holds, &c. 2-2 (Forehold & Slushwell)  
 No. of Bilge Injections 1 sizes 3 Connected to condenser, or to circulating pump None Is a separate Donkey Suction fitted in Engine room & size 2 $\frac{1}{2}$  inch  
 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 Hold Suctions 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 1-3-11 of Stern Tube 1-3-11 Screw shaft and Propeller 1-3-11  
 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 Phoenix & Howard Westphalia  
 Total Heating Surface of Boilers 1590 $\frac{1}{2}$  Is Forced Draft fitted No No. and Description of Boilers 1 S.E. Multitubular  
 Working Pressure 180 lb. Tested by hydraulic pressure to 360 lb. Date of test 17-3-11 No. of Certificate 1793  
 Can each boiler be worked separately ✓ Area of fire grate in each boiler 47-5 $\frac{1}{2}$  No. and Description of Safety Valves to each boiler 2 Spring loaded Area of each valve 5-93 Pressure to which they are adjusted 185 lb. Are they fitted with easing gear Yes  
 Smallest distance between boilers or uptakes and bunkers or woodwork 21 Mean dia. of boilers 14-0 Length 10-7 $\frac{1}{2}$  Material of shell plates Steel  
 Thickness 1 $\frac{3}{32}$  Range of tensile strength 29-33 $\frac{1}{2}$  Are the shell plates welded or flanged No Descrip. of riveting: cir. seams 5/8 Lap long. seams 5/8 S. units Diameter of rivet holes in long. seams 1 $\frac{5}{32}$  Pitch of rivets 7 $\frac{3}{16}$  Lap of plates or width of butt straps 17 $\frac{1}{2}$   
 Per centages of strength of longitudinal joint rivets 85-9 Working pressure of shell by rules 180 Size of manhole in shell 16 x 12 plate 85-08  
 Size of compensating ring 40 x 30 x 1 $\frac{1}{2}$  No. and Description of Furnaces in each boiler 3 plain Material Steel Outside diameter 3-3 $\frac{12}{32}$   
 Length of plain part top 7 $\frac{1}{2}$  bottom 7 $\frac{1}{2}$  Thickness of plates crown 1 $\frac{1}{32}$  bottom 1 $\frac{1}{32}$  Description of longitudinal joint Welded No. of strengthening rings one  
 Working pressure of furnace by the rules 191 Combustion chamber plates: Material Steel Thickness: Sides 2 $\frac{3}{32}$  Back 1 $\frac{1}{32}$  Top 1 $\frac{1}{32}$  Bottom 2 $\frac{3}{32}$   
 Pitch of stays to ditto: Sides 9 x 7 $\frac{3}{4}$  Back 9 $\frac{1}{2}$  x 9 Top 7 $\frac{3}{4}$  x 9 If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 192  
 Material of stays Steel Diameter at smallest part 1 $\frac{1}{2}$  Area supported by each stay 107 $\frac{1}{2}$  Working pressure by rules 200 End plates in steam space: Material Steel Thickness 1 $\frac{3}{32}$  Pitch of stays 17 $\frac{1}{2}$  x 18 How are stays secured Washer Working pressure by rules 180 Material of stays Steel  
 Diameter at smallest part 6-10 Area supported by each stay 3-5 Working pressure by rules 201 Material of Front plates at bottom Steel  
 Thickness 2 $\frac{7}{32}$  Material of Lower back plate Steel Thickness 2 $\frac{7}{32}$  Greatest pitch of stays 14 $\frac{1}{2}$  x 9 $\frac{1}{2}$  Working pressure of plate by rules 270  
 Diameter of tubes 3 $\frac{1}{2}$  Pitch of tubes 4-7 $\frac{1}{2}$  Material of tube plates Steel Thickness: Front 2 $\frac{7}{32}$  Back 2 $\frac{7}{32}$  Mean pitch of stays 9 $\frac{1}{2}$  x 9 $\frac{1}{2}$   
 Pitch across wide water spaces 14 $\frac{3}{4}$  Working pressures by rules 197 Girders to Chamber tops: Material Steel Depth and thickness of girder at centre 9 x 2 Length as per rule 3-0 Distance apart 9 Number and pitch of stays in each 32 7 $\frac{3}{4}$   
 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

If not, state whether, and when, one will be sent? In a Report also sent on the Hull of the Ship?

013042-013051-0073



**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 \_\_\_\_\_

Dia. of rivet holes \_\_\_\_\_ Whether punched or drilled \_\_\_\_\_ Pitch of rivets \_\_\_\_\_ Lap of plating \_\_\_\_\_ Per centage of strength of joint \_\_\_\_\_ 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 \_\_\_\_\_ 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 rod bolts & nuts, two main bearing bolts & nuts, one set of coupling bolts & nuts, one set of feed & barge pumps valves, one main & one donkey feed chest valve, one set of air pump valves, assorted bolts & nuts etc.*

**FOR AMOS & SMITH LTD.**

The foregoing is a correct description,

Manufacturer.

*W. Wade*  
Managing Director.

Dates of Survey while building	During progress of work in shops	1910: Sep 21, 23 Oct 8, 27, 31 Nov 2, 5, 9, 10, 15, 17, 22, 24, 26	Is the approved plan of main boiler forwarded herewith <i>yes</i> ✓
	During erection on board vessel	1911: Jan 5, 10, 12, 17, 21, 23, 25, 27, Feb 2, 4, 6, 7, 8, 9, 15, 17, 20, 24, Mar 1, 2, 8, 11, 13, 17, 21, 23, 24	
	Total No. of visits	59	

Dates of Examination of principal parts	Cylinders	20.2.11	Slides	21.3.11	Covers	21.3.11	Pistons	8.3.11	Rods	21.3.11	
Connecting rods	8.3.11	Crank shaft	21.3.11	Thrust shaft	8.3.11	Tunnel shafts	✓	Screw shaft	20.2.11	Propeller	20.2.11
Stern tube	20.2.11	Steam pipes tested	31.3.11	Engine and boiler seatings	1.3.11	Engines holding down bolts	24.3.11				
Completion of pumping arrangements	12.4.11	Boilers fixed	1.4.11	Engines tried under steam	5.4.11						
Main boiler safety valves adjusted	5.4.11	Thickness of adjusting washers	S <sup>3</sup> P <sup>3</sup>								
Material of Crank shaft	S	Identification Mark on Do.	21.3.11	Material of Thrust shaft	S	Identification Mark on Do.	8.3.11				
Material of Tunnel shafts	✓	Identification Marks on Do.	✓	Material of Screw shafts	Iron	Identification Marks on Do.	689.20.2.11				
Material of Steam Pipes	Polished 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 & are respectfully submitted as being eligible in my opinion to have record of L.M.C. 4.11 in the Register Book.*

It is submitted that this vessel is eligible for THE RECORD + LMC 4.11.

*JWD*  
*JW*  
4/6/11

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

The amount of Entry Fee	£ 1	When applied for	24.4.1911
Special	£ 13	When received	28.4.1911
Donkey Boiler Fee	£		
Travelling Expenses (if any)	£		

Committee's Minute **28 APR 1911**

Assigned



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(830) (70635)

Certificate (if required) to be sent to

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