

# REPORT ON MACHINERY.

No. 20448

Received at London Office

MUN. 24 AUG 1908

of writing Report 19.8.1008 When handed in at Local Office

22.8.1008 Port of Hull

in Survey held at Hull

Date, First Survey April 13<sup>th</sup> Last Survey Aug 10<sup>th</sup> 1908

Book 10 on the S/Hawker VIVO

(Number of Visits 33)

Gross 270

Net 103

ster Built at Selby

By whom built Cochrane & Sons

When built 1908

ines made at Hull

By whom made Amoss Smith

when made 1908

ilers made at S

By whom made S

when made

gistered Horse Power 88 Owners Morays Kelly

Port belonging to Grimsby

m. Horse Power as per Section 28 90

Is Refrigerating Machinery fitted for cargo purposes No

Is Electric Light fitted No

GINES, &c.—Description of Engines *Juvenia Super Capamin* No. of Cylinders 3 No. of Cranks 3

ia. of Cylinders 13-22 1/2-37 Length of Stroke 24 Revs. per minute 110 Dia. of Screw shaft as per rule 7 1/2 as fitted 8 1/2 Material of screw shaft Iron

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

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 Yes If two

liners are fitted, is the shaft lapped or protected between the liners Length of stern bush 33

Dia. of Tunnel shaft as per rule 6 5/8 as fitted 7 1/2 Dia. of Crank shaft journals as per rule 7 1/2 as fitted 7 3/4 Dia. of Crank pin 7 1/2 Size of Crank webs 8 1/2 Dia. of thrust shaft under

collars 7 3/4 Dia. of screw 9 1/4 Pitch of Screw 10 1/4 (4mm) No. of Blades 4 State whether moveable No Total surface 31 1/2

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

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

No. of Donkey Engines 1 Sizes of Pumps 6 x 3 x 6 No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room 2-2 (7 in dia) In Holds, &c. 2-2 (7 in dia)

2" Ejector suction from all legs with discharge in deck

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

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 plates Yes

What pipes are carried through the bunkers Cold 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

Date of examination of completion of fitting of Sea Connections 1.5.08 of Stern Tube 1.5.08 Screw shaft and Propeller 1.5.08

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

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

Total Heating Surface of Boilers 1575 Is Forced Draft fitted No No. and Description of Boilers 1 S.F. Multitubular

Working Pressure 180 lbs. Tested by hydraulic pressure to 350 lbs. Date of test 17.7.08 No. of Certificate 1653

Can each boiler be worked separately Area of fire grate in each boiler 47.5 sq ft No. and Description of Safety Valves to

each boiler 2 Spring loaded Area of each valve 4.9 Pressure to which they are adjusted 18 lbs. Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork 18 Mean dia. of boilers 13.6 Length 10.9 Material of shell plates Steel

Thickness 1 3/32 Range of tensile strength 28-32 Are the shell plates welded or flanged No Descrip. of riveting: cir. seams SR Lap

long. seams 2 BS 5 in dia Diameter of rivet holes in long. seams 1 3/16 Pitch of rivets 8.23 Lap of plates or width of butt straps 17 1/2

Per centages of strength of longitudinal joint rivets 90.6 Working pressure of shell by rules 180 Size of manhole in shell 16 x 12

Size of compensating ring 30 x 40 No. and Description of Furnaces in each boiler 3 plain Material Steel Outside diameter 3.3 1/2

Length of plain part top 6.2 bottom 6.8 Thickness of plates crown 7.49 bottom 7.24 Description of longitudinal joint welded No. of strengthening rings 14

Working pressure of furnace by the rules 187 Combustion chamber plates: Material Steel Thickness: Sides 23/32 Back 7/16 Top 4/8 Bottom 23/32

Pitch of stays to ditto: Sides 9 x 7 1/2 Back 9 1/2 x 9 Top 8 1/2 x 7 1/2 If stays are fitted with nuts or riveted heads Yes Working pressure by rules 191

Material of stays Steel Diameter at smallest part 2.39 Area supported by each stay 119 Working pressure by rules 181 End plates in steam space:

Material Steel Thickness 1 1/2 Pitch of stays 16 1/2 x 16 1/2 How are stays secured Nut worked Working pressure by rules 185 Material of stays Steel

Diameter at smallest part 5.05 Area supported by each stay 270 Working pressure by rules 194 Material of front plates at bottom Steel

Thickness 1 5/16 Material of Lower back plate Steel Thickness 7 Greatest pitch of stays 14 1/2 x 10 Working pressure of plate by rules 180

Diameter of tubes 3 1/2 Pitch of tubes 5 1/2 x 3 1/2 Material of tube plates Steel Thickness: Front 15/16 Back 27/32 Mean pitch of stays 9 1/2

Pitch across wide water spaces 14 1/2 Working pressures by rules 182 Girders to Chamber tops: Material Iron Depth and

thickness of girder at centre 9 1/2 x 2 Length as per rule 3-0 Distance apart 8 1/2 Number and pitch of stays in each 20 7 1/2

Working pressure by rules 181 Superheater or Steam chest; how connected to boiler None Can the superheater be shut off and the boiler worked

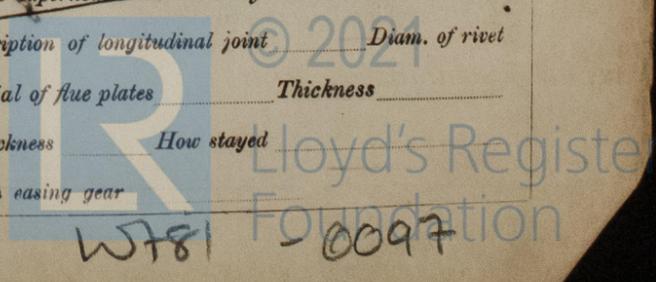
separately Diameter Length Thickness of shell plates Material Description of longitudinal joint Diam. of rivet

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

Is a Report also sent on the ...



W781 0097

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

Dia. of rivet holes \_\_\_\_\_ Whether punched or drilled \_\_\_\_\_ Pitch of rivets \_\_\_\_\_ Lap of plating \_\_\_\_\_ Per centage of strength of joint \_\_\_\_\_ Rivets \_\_\_\_\_ 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 \_\_\_\_\_ 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 end bolts, nuts, two main steaming bolts, one set of coupling bolts & nuts, one main screw donkey feed check valve, one set of feed & bilge pump valves, one set of air pump valves, assorted bolts & nuts etc.*

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

Dates of Survey while building: During progress of work in shops— *1908. - Apr 13. 16. 22. 28. May 1. 2. 6. 9. 11. PARTNER May 12. 16. 19. 20. 23. 26. 29. 30. Jun 2. 6.*  
During erection on board vessel— *Jun 19. 27. July 2. 4. 8. 11. 13. 17. 18. 21. 27. 28. Aug 5. 10.*  
Total No. of visits *33*

Is the approved plan of main boiler forwarded herewith *Yes*  
" " " donkey " " " *Yes*

Dates of Examination of principal parts— Cylinders *4. 7. 08.* Slides *11. 7. 08.* Covers *27. 6. 08.* Pistons *11. 7. 08.* Rods *27. 6. 08.*  
Connecting rods *6. 6. 08.* Crank shaft *4. 7. 08.* Thrust shaft *6. 6. 08.* Tunnel shafts *✓* Screw shaft *28. 4. 08.* Propeller *28. 4. 08.*  
Stern tube *28. 4. 08.* Steam pipes tested *28. 7. 08.* Engine and boiler seatings *1. 5. 08.* Engines holding down bolts *27. 7. 08.*  
Completion of pumping arrangements *10. 8. 08.* Boilers fixed *27. 7. 08.* Engines tried under steam *5. 8. 08.*  
Main boiler safety valves adjusted *5. 8. 08.* Thickness of adjusting washers *P 4 1/2 S 3 1/2*  
Material of Crank shaft *Steel* Identification Mark on Do. *414 J.W.G. 4. 7. 08.* Material of Thrust shaft *Steel* Identification Mark on Do. *414 J.W.G. 4. 7. 08.*  
Material of Tunnel shafts *✓* Identification Marks on Do. *✓* Material of Screw shafts *Iron* Identification Marks on Do. *414 J.W.G. 28. 4. 08.*  
Material of Steam Pipes *Solid drawn copper* Test pressure *360 lbs.*

**General Remarks** (State quality of workmanship, opinions as to class, &c. *The machinery & tubes of this vessel have been constructed under Special Survey, and of good material & workmanship & have been fixed & secured in accordance with the Rules. They are now in good working condition & eligible in my opinion to have record of T.L.M.C. 8.08 in the Register Book.*

It is submitted that this vessel is eligible for **THE RECORD.** T.L.M.C. 8.08.

*A.S.R. 24/8.08*  
*J.R. 24. 8. 08*

The amount of Entry Fee	£	0	When applied for,
Special	£	13	22/8/1908
Donkey Boiler Fee	£		When received,
Travelling Expenses (if any)	£	8 2	31. 8. 08

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

Committee's Minute **1UES, 25 AUG 1908**

Assigned *Thme 8.08*



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MACHINE WRITTEN

Certificate (if required) to be sent to

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