

REPORT ON MACHINERY.

No. 26608
THU. AUG. 14. 1913

Date of writing Report 30th July 1913 When handed in at Local Office 13th Aug. 1913 Port of Hull

No. in Survey held at Hull Date, First Survey Dec. 2nd 1912 Last Survey July 30th 1913

Sup. 4 on the Steel S.S. "Inawilliam"

Master Selby Built at Selby By whom built Bochraue & Sons Ltd. Tons Gross 337.40 Net 134.35

Engines made at Hull By whom made Amos & Smith Ltd. when made 1913

Boilers made at Hull By whom made Amos & Smith Ltd. when made 1913

Registered Horse Power 90 Owners Hecla Ste. Fishing Co. Port belonging to Grimsby

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 Triple expansion No. of Cylinders 3 No. of Cranks 3

Dia. of Cylinders 13"-22 1/2"-37" Length of Stroke 26" Revs. per minute 7.84 Dia. of Screw shaft 7 7/8" 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 no 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 no

If two liners are fitted, is the shaft lapped or protected between the liners no Length of stern bush 2'-9"

Dia. of Tunnel shaft 7.017" Dia. of Crank shaft journals 7.367" Dia. of Crank pin 7 1/2" Size of Crank webs 4 1/2" x 4 1/2"

Collars 7 1/2" Dia. of screw 9'-6" Pitch of Screw 11'-2" No. of Blades 4 State whether moveable no Total surface 330

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

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

No. of Donkey Engines 2 Sizes of Pumps 6" x 3" x 6" x 6" x 4" x 6" No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room 2-2" one forward, one aft. In Holds, &c. One 2" to Fore Hold, one 2" to Main hold, one 2" to Forward slush well, one 2" to after slush well, 2" ejector from all bilges

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

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 19.5.13 of Stern Tube 19.5.13 Screw shaft and Propeller 19.5.13

Is the Screw Shaft Tunnel watertight yes Is it fitted with a watertight door no worked from no

BOILERS, &c.—(Letter for record S) Manufacturers of Steel Messrs. Phoenix Akt. Horder Verein. of Hörde

Total Heating Surface of Boilers 1521 Is Forced Draft fitted no No. and Description of Boilers One Single-ended Multitubular

Working Pressure 200 lbs. Tested by hydraulic pressure to 400 lbs. Date of test 23.6.13 No. of Certificate 1992

Can each boiler be worked separately yes Area of fire grate in each boiler 45.125 No. and Description of Safety Valves to each boiler 2 Spring loaded

Area of each valve 4.91 Pressure to which they are adjusted 205 lbs. Are they fitted with easing gear yes

Smallest distance between boilers or uptakes and bunkers or woodwork 7" Dia. of boilers 15 1/2" Length 10'6" Material of shell plates S

Thickness 1/16" Range of tensile strength 29-33 Are the shell plates welded or flanged no Descrip. of riveting: cir. seams S.R. Lap

long. seams A.B.S.F.R. Diameter of rivet holes in long. seams 1 1/2" Pitch of rivets 7 3/4" Lap of plates or width of butt straps 17 1/4"

Per centages of strength of longitudinal joint: rivets 85.2 Working pressure of shell by rules 288 Size of manhole in shell 16" x 12"

Size of compensating ring 9" x 1 1/2" No. and Description of Furnaces in each boiler 3 plain Material S Outside diameter 3'-3 5/8"

Length of plain part top 79.5 bottom 74 Thickness of plates crown 1/32" bottom 7/16" Description of longitudinal joint Welded No. of strengthening rings no

Working pressure of furnace by the rules 207 Combustion chamber plates: Material S Thickness: Sides 22 1/2 23 1/2" Back 14" Top 22 1/2 23 1/2" Bottom 3 1/4"

Pitch of stays to ditto: Sides 8 1/2 x 9 1/2" Back 8 1/4 x 9" Top 8 1/2 x 8 1/2" If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 208

Material of stays S Diameter at smallest part 1.76 Area supported by each stay 80.75 Working pressure by rules 218 End plates in steam space:

Material S Thickness 1 1/8" Pitch of stays 16 3/4 x 17 1/4" How are stays secured Non-welded Working pressure by rules 208 Material of stays S

Area at smallest part 6.1 Area supported by each stay 290 Working pressure by rules 218 Material of Front plates at bottom S

Thickness 1 Material of Lower back plate S Thickness 15 1/16" Greatest pitch of stays 14 x 9 Working pressure of plate by rules 218

Diameter of tubes 3 1/2" Pitch of tubes 4 1/2 x 4 3/4" Material of tube plates S Thickness: Front 1" Back 7/8" Mean pitch of stays 9 1/2 x 14 1/2"

Pitch across wide water spaces 13 3/4" Working pressures by rules 226 Girders to Chamber tops: Material S Depth and thickness of girder at centre 9 1/2 x 1 1/2" Length as per rule 2'-9" Distance apart 8 1/2" Number and pitch of stays in each 2, 8 1/2"

Working pressure by rules 210 Superheater or Steam chest; how connected to boiler no Can the superheater be shut off and the boiler worked separately no

Diameter no Length no Thickness of shell plates no Material no Description of longitudinal joint no Diam. of rivet holes no

Pitch of rivets no Working pressure of shell by rules no Diameter of flue no Material of flue plates no Thickness no

If stiffened with rings no Distance between rings no Working pressure by rules no End plates: Thickness no How stayed no

Working pressure of end plates no Area of safety valves to superheater no Are they fitted with easing gear no

If need, state whether, and when, one will be sent?

Im. 2.12. F.



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 _____ 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:— *The propeller, Two each top & bottom end connecting rod bolts nuts, two main bearing bolts & nuts, one set of coupling bolts nuts, one set each feed & bilge pump valves, iron of different sizes, a quantity of assorted bolt nuts.*

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

Manufacturer.

Dates of Survey while building: During progress of work in shops: 1912— Dec. 2, 10, 14, 16, 1913— Jan. 15, 22, 29, Feb. 18, Mar. 17, 19, 26, 27, Apr. 7, 12, 15, 22, 24, 29, May 5, 9, 10, 19, 22, 25, Jun. 10, 12, 18, 23, 27, Jul. 10, 11, 14, 15, 22, 28, 30
 Total No. of visits: 36
 Is the approved plan of main boiler forwarded herewith: *Yes*

Dates of Examination of principal parts—Cylinders 10.6.13, Slides 10.6.13, Covers 10.6.13, Pistons 12.6.13, Rods 12.6.13, Connecting rods 12.6.13, Crank shaft 10.6.13, Thrust shaft 10.6.13, Tunnel shafts ✓, Screw shaft 10.5.13, Propeller 5.5.13, Stern tube 5.5.13, Steam pipes tested 10.7.13, Engine and boiler seatings 19.5.13, Engines holding down bolts 10.7.13, Completion of pumping arrangements 10.7.13, Boilers fixed 10.7.13, Engines tried under steam 15.7.13, Main boiler safety valves adjusted 15.7.13, Thickness of adjusting washers PY 7/16" SV 7/16" fare, Material of Crank shaft S, Identification Mark on Do. 1152, Material of Thrust shaft S, Identification Mark on Do. 1152, Material of Tunnel shafts ✓, Identification Marks on Do. ✓, Material of Screw shafts S, Identification Marks on Do. 1152, Material of Steam Pipes Solid drawn Copper, Test pressure 400lbs. hyd. pressure.

General Remarks (State quality of workmanship, opinions as to class, &c. *The engines & boilers of this vessel have been constructed under special survey in accordance with the rules. The materials & workmanship are sound & good, the boiler tested by hydraulic pressure and with the engines secured on board & tested under steam they are now in good order & safe working condition, & respectfully submitted as being eligible in my opinion to be classed with the notation of **LMC 8.13** in the Register book.*

It is submitted that this vessel is eligible for **THE RECORD. + LMC 7.13.**

E. J. Mackie
14.8.13

The amount of Entry Fee .. £ 1 : : When applied for, Special .. £ 13. 10 : : 13.5.13
 Donkey Boiler Fee .. £ : : When received, 30/8/13
 Travelling Expenses (if any) £ : 2 : 8

J. S. Mackie
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute **FRI. AUG. 15, 1913**
 Assigned + LMC 7.13

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

