Rpt. 4.

REPORT ON MACHINERY. No. 26761

Received at London Office THU. OCT. 2 - 1913

Date of writing Report 27th Sept. 1913 When handed in at Local Office 1/10/1913 Port of

No. in Reg. Book. Survey held at Hull. Date, First Survey Oct 29th Last Survey Sept. 19th 1913. (Number of Visits 43.)

S.S. on the S.S. "Unitia" Tons Gross 296 Net 122

Master Built at Beverley. By whom built Cook, Welton & Gemmell Ltd When built 1913.

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 Owners Gt. Grns. & E. Coast Fishing Co. Port belonging to Grimsby

Nom. Horse Power as per Section 28 89. Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted no.

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

Dia. of Cylinders 13½ - 22½ - 37. Length of Stroke 24. Revs. per minute Dia. of Screw shaft as per rule 7.49. as fitted 8" Material of screw shaft J.

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 as per rule 6.75. as fitted 7⅜ Dia. of Crank shaft journals as per rule 7.08 as fitted 7½ Dia. of Crank pin 7½ Size of Crank webs 4¾ x 14¾ Dia. of thrust shaft under collars 7½ Dia. of screw 9' Pitch of Screw 11'-6" No. of Blades 4 State whether moveable no. Total surface 29.5 sq. ft.

No. of Feed pumps 1 Diameter of ditto 3 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 6x4¾x6. 6x3x6. No. and size of Suctions connected to both Bilge and Donkey pumps In Engine Room 2. 2" one for d. rose aft In Holds, &c. 1-2 from forehold. 1-2" from main hold. 1-2" from for d. slushwell 1-2" from after slushwell. 1-2" from stokehold.

No. of Bilge Injections 1 sizes 3" Connected to condenser, or to circulating pump Condenser 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 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 17.7.13. of Stern Tube 17.7.13. Screw shaft and Propeller 17.7.13.

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

BOILERS, &c.—(Letter for record S.) Manufacturers of Steel Carnegie Steel Company

NB 1577

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 26.8.13. No. of Certificate 2009.

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 5.94 Pressure to which they are adjusted 190 lbs. Are they fitted with easing gear yes.

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

Thickness 1 3/32 Range of tensile strength 29-33. Are the shell plates welded or flanged no Descrip. of riveting: cir. seams DR Lap long. seams DBJR. Diameter of rivet holes in long. seams 1 5/32" Pitch of rivets 7¾ ~~Lap of plates or~~ width of butt straps 17⅛

Per centages of strength of longitudinal joint rivets 85.9. plate 85.08. Working pressure of shell by rules 185. Size of manhole in shell 16 x 12.

Size of compensating ring 40x30x1 3/32 No. and Description of Furnaces in each boiler 3 plain Material S. Outside diameter 3-3 17/32

Length of plain part top 79.5 bottom 74. Thickness of plates crown 49/64 bottom 49/64 Description of longitudinal joint welded. No. of strengthening rings ✓

Working pressure of furnace by the rules 190. Combustion chamber plates: Material S. Thickness: Sides 11/16 Back 11/16 Top 11/16 Bottom 13/16

Pitch of stays to ditto: Sides 9½ x 7½ Back 9¼ x 9 Top 8½ x 10 If stays are fitted with nuts or riveted heads nuts Working pressure by rules 197.

Material of stays S. ~~Diameter~~ area at smallest part 2.06 / 2.29 Area supported by each stay 83 sq. in. Working pressure by rules 222 End plates in steam space:

Material S. Thickness 1/32 Pitch of stays 17x15 How are stays secured No Washers Working pressure by rules 197. Material of stays S.

~~Diameter~~ at smallest part 6.1 Area supported by each stay 25-5 sq. in. Working pressure by rules 248 Material of Front plates at bottom S.

Thickness 1" Material of Lower back plate S. Thickness 15/16 Greatest pitch of stays 9⅛ x 14¼ Working pressure of plate by rules 211.

Diameter of tubes 3¼ Pitch of tubes 4⅞ x 4½ Material of tube plates S. Thickness: Front 1" Back 27/32 Mean pitch of stays 9¾ x 9

Pitch across wide water spaces 14¼ Working pressures by rules 189 Girders to Chamber tops: Material S. Depth and thickness of girder at centre 9½ x 1¾ Length as per rule 2-10 Distance apart 10 Number and pitch of stays in each 3-8½

Working pressure by rules 194 Superheater or Steam chest; how connected to boiler 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 Hull of the Ship?

Im.212. T.

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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 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 each top & bottom and connecting rod bolts & nuts, Two main bearing bolts & nuts, One set of coupling bolts & nuts One set each fan & bilge pump valves. Rivets of various sizes, a quantity of assorted bolts & nuts etc.

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

Manufacturer. W S Hyde Managing Director.

Dates of Survey while building — During progress of work in shops: 1912.- Oct 29. Dec 2. 5. 10. 13. 16. 19. 23 / 1913.- Jan 6. 27. Feb 8. 12. 18. 20. 28. Mar 14.

During erection on board vessel: Apr 12. 15. 22. 24. 28. May 5. 922 / 29. June 10. 18. 27. July 9. 12. 14. 16. 17. 21. 29 Aug 13. 21. 26. 29. Sep 15. 16. 17. 19.

Total No. of visits 43.

Is the approved plan of main boiler forwarded herewith Rpt No. 26389. "Thuringia"

" " " donkey " " "

Dates of Examination of principal parts— Cylinders 13.8.13. Slides 13.8.13. Covers 13.8.13. Pistons 21.7.13. Rods 21.7.13.

Connecting rods 21.7.13. Crank shaft 21.7.13. Thrust shaft 9.7.13. Tunnel shafts ✓ Screw shaft 9.7.13. Propeller 9.7.13.

Stern tube 9.7.13. Steam pipes tested 15.9.13. Engine and boiler seatings 17.7.13. Engines holding down bolts 15.9.13.

Completion of pumping arrangements 15.9.13. Boilers fixed 15.9.13. Engines tried under steam 17.9.13.

Main boiler safety valves adjusted 17.9.13. Thickness of adjusting washers SV 13/32 PV 7/16.

Material of Crank shaft S Identification Mark on Do. 1166 Material of Thrust shaft S Identification Mark on Do. 1166

Material of Tunnel shafts ✓ Identification Marks on Do. Material of Screw shafts S. Identification Marks on Do. 1166.

Material of Steam Pipes Solid drawn Copper. Test pressure 370 lbs.

General Remarks (State quality of workmanship, opinions as to class, &c. The engines & boiler of this Vessel have been constructed under special Survey in accordance with the Rules. The materials and workmanship are sound & good. The boiler tested by hydraulic pressure with the engines secured on board & tested under steam they are now in good & safe working condition & respectfully submitted as being eligible in my opinion to be Classed with notation of +LMC 9.13. in the Register book.

Hull

Certificate (if required) to be as

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

It is submitted that this vessel is eligible for THE RECORD. + LMC. 9.13.

J W D. 7/10/13.

J G M

The amount of Entry Fee ..	£ 1 : :	When applied for,	27.9.13
Special	£ 13 . 7 : :		
Donkey Boiler Fee	£ : :	When received,	30/9/13
Travelling Expenses (if any)	£ : 1 :		

mr. J. G. MacKillop.

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

Committee's Minute FRI. OCT. 3 – 1913

Assigned + LMC 9 13

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