

REPORT ON MACHINERY.

No. 28594

Received at London Office JUN. 22. 1915

Date of writing Report 19-6-1915 When handed in at Local Office 19-6-1915 Port of Hull
 No. in Survey held at Hull Date, First Survey 28-8-14 Last Survey 1-6-1915
 Reg. Book. 25 Supp. on the Steam Trawler FORWARD HO (Number of Visits 53)
 Master Built at Beverley By whom built Cook, Wilton & Gemmell When built 1915
 Engines made at Hull By whom made Amos & Smith (No 2598) when made 1915
 Boilers made at Hull By whom made Amos & Smith when made 1915
 Registered Horse Power Owners S. T. White & Co. Ltd. Port belonging to Hull
 Nom. Horse Power as per Section 28 78 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 $12\frac{1}{2} \times 21\frac{1}{2} \times 35\frac{1}{4}$ Length of Stroke 24 Revs. per minute Dia. of Screw shaft as per rule $7\frac{1}{2}$ as fitted $7\frac{1}{8}$ 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 yes If two liners are fitted, is the shaft lapped or protected between the liners yes Length of stern bush $2'-10"$
 Dia. of Tunnel shaft as per rule $6\frac{1}{4}$ as fitted 7 Dia. of Crank shaft journals as per rule $6\frac{1}{2}$ as fitted $7\frac{1}{4}$ Dia. of Crank pin $7\frac{1}{4}$ Size of Crank webs $14\frac{3}{8} \times 4\frac{3}{8}$ Dia. of thrust shaft under collars $7\frac{1}{4}$ Dia. of screw $9'-0"$ Pitch of Screw $11'-0"$ No. of Blades 4 State whether moveable no Total surface 29.5 ft^2
 No. of Feed pumps 1 Diameter of ditto $2\frac{3}{4}$ Stroke 12 Can one be overhauled while the other is at work yes
 No. of Bilge pumps 1 Diameter of ditto $2\frac{3}{4}$ Stroke 12 Can one be overhauled while the other is at work yes
 No. of Donkey Engines 1 Sizes of Pumps $6 \times 4\frac{1}{4} \times 6$ No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room 2-2, forward & aft In Holds, &c. three 2, one to slush well in spare fish room, one to main fish room, & one to fore hold.
 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 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
 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 casings
 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 29-10-14 of Stern Tube 29-10-14 Screw shaft and Propeller 29-10-14
 Is the Screw Shaft Tunnel watertight yes Is it fitted with a watertight door yes worked from yes

BOILERS, &c.—Letter for record S Manufacturers of Steel W. Beardmore & Co. Ltd. Glasgow.
 Total Heating Surface of Boilers 1305 ft^2 Is Forced Draft fitted no No. and Description of Boilers one single ended.
 Working Pressure 200 lb Tested by hydraulic pressure to 400 lb Date of test 26-4-15 No. of Certificate 3076.
 Can each boiler be worked separately yes Area of fire grate in each boiler 45 ft^2 No. and Description of Safety Valves to each boiler 2 spring loaded Area of each valve 4.9 sq. in. Pressure to which they are adjusted 200 lb Are they fitted with easing gear yes
 Smallest distance between boilers or uptakes and bunkers or woodwork 7 in Mean dia. of boilers 12-9 Length 10-6 Material of shell plates steel
 Thickness $\frac{1}{8}$ Range of tensile strength 29/33 tons Are the shell plates welded or flanged no Descrip. of riveting: cir. seams DR.
 long. seams TRDBS. Diameter of rivet holes in long. seams $1\frac{5}{32}$ Pitch of rivets $7\frac{3}{4}$ Lap of plates or width of butt straps $16\frac{3}{4}$
 Per centages of strength of longitudinal joint rivets 89.6 plate 85 Working pressure of shell by rules 202 Size of manhole in shell 16×12
 Size of compensating ring $3\frac{1}{2} \times 2\frac{1}{2} \times 1\frac{1}{8}$ No. and Description of Furnaces in each boiler 3 plain Material S Outside diameter $3\frac{1}{8}$
 Length of plain part top 80 bottom 72 Thickness of plates crown $\frac{13}{16}$ bottom $\frac{1}{16}$ Description of longitudinal joint welded No. of strengthening rings none
 Working pressure of furnace by the rules 223 Combustion chamber plates: Material S Thickness: Sides $\frac{11}{16}$ Back $\frac{23}{32}$ Top $\frac{11}{16}$ Bottom $\frac{11}{16}$
 Pitch of stays to ditto: Sides $9\frac{1}{4} \times 7\frac{3}{4}$ Back 9×9 Top $9 \times 8\frac{1}{2}$ If stays are fitted with nuts or riveted heads nuts Working pressure by rules 210
 Material of stays S Diameter at smallest part 2-07 Area supported by each stay 81 sq. in. Working pressure by rules 230 End plates in steam space: Material S Thickness $1\frac{3}{32}$ Pitch of stays $17 \times 16\frac{1}{2}$ How are stays secured washers Working pressure by rules 201 Material of stays S
 Diameter at smallest part 6-10 Area supported by each stay 297-50 Working pressure by rules 213 Material of Front plates at bottom S
 Thickness 1 Material of Lower back plate S Thickness $\frac{29}{32}$ Greatest pitch of stays $13\frac{3}{4} \times 9\frac{1}{2}$ Working pressure of plate by rules 203
 Diameter of tubes $3\frac{1}{2}$ Pitch of tubes $4\frac{13}{16} \times 5$ Material of tube plates S Thickness: Front 1 Back $\frac{27}{32}$ Mean pitch of stays $10 \times 9\frac{5}{8}$
 Pitch across wide water spaces $13\frac{3}{4}$ Working pressures by rules 203 lb Girders to Chamber tops: Material S Depth and thickness of girder at centre $10 \times 1\frac{3}{4}$ Length as per rule $3'-0"$ Distance apart 9 Number and pitch of stays in each three $8\frac{1}{2}$
 Working pressure by rules 209 Superheater or Steam chest; how connected to boiler yes Can the superheater be shut off and the boiler worked separately yes Diameter yes Length yes Thickness of shell plates yes Material yes Description of longitudinal joint yes Diam. of rivet holes yes Pitch of rivets yes Working pressure of shell by rules yes Diameter of flue yes Material of flue plates yes Thickness yes
 If stiffened with rings yes Distance between rings yes Working pressure by rules yes End plates: Thickness yes How stayed yes
 Working pressure of end plates yes Area of safety valves to superheater yes Are they fitted with easing gear yes

IS A DONKEY BOILER FITTED? *no*

If so, is a report now forwarded? ☒

SPARE GEAR. State the articles supplied:— *Two top end bolts & nuts, two bottom end bolts & nuts, two main bearing bolts & nuts, one set of coupling bolts & nuts, one set of feed, bilge, & air pump valves, one main & one donkey check valve, a quantity of bolts & nuts & iron of various sizes.*

The foregoing is a correct description.

FOR AMOS & SMITH LTD.

W. Brackenbury

Manufacturer.

Dates of Survey while building { During progress of work in shops - - } *1914: - Aug 28. Oct 14. 15. 16. 23. Nov 13. 18. 24. 28 Dec 1. 5. 8. 11. 16. 18. 22. 24. 1915: Jan 2. 7. 11. 15. 21. 27*
{ During erection on board vessel - - - } *Feb 2. 18. 23. Mar 1. 5. 9. 12. 18. 22. 26. 29 Apr 1. 7. 8. 12. 15. 16. 20. 21. 23. 26. 30 May 4. 12. 14. 18. 20*
Total No. of visits *53.*

Is the approved plan of main boiler forwarded herewith *yes.*

" " " donkey " " " ☒

Dates of Examination of principal parts—Cylinders *1-4-15* Slides *26-4-15* Covers *1-4-15* Pistons *23-4-15* Rods *23-4-15*

Connecting rods *12-4-15* Crank shaft *30-4-15* Thrust shaft *4-5-15* Tunnel shafts *16-10-14* Screw shaft *16-10-14* Propeller *16-10-14*

Stern tube *16-10-14* Steam pipes tested *14-5-15* Engine and boiler seatings *29-10-14* Engines holding down bolts *12-5-15*

Completion of pumping arrangements *1-6-15.* Boilers fixed *12-5-15* Engines tried under steam *20-5-15*

Main boiler safety valves adjusted *20-5-15* Thickness of adjusting washers *13/32 P&S.*

Material of Crank shaft *steel* Identification Mark on Do. *30-4-15* Material of Thrust shaft *steel* Identification Mark on Do. *4-5-15*

Material of Tunnel shafts Identification Marks on Do. Material of Screw shafts *Iron* Identification Marks on Do. *1296 FLS*

Material of Steam Pipes *S.D. Copper* Test pressure *400 lbs per sq. inch.*

Is an installation fitted for burning oil fuel *no* 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 ☒

Is this machinery duplicate of a previous case *yes* If so, state name of vessel *"Sea Ranger."*

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, & with the rules of this society.

The materials & workmanship are good; the boiler & steam pipes have been tested as above by hydraulic pressure, & found sound & good. The machinery has been properly fitted & secured on board, & on completion tried under steam & found satisfactory. The safety valves have been adjusted under steam & tested for accumulation, which did not exceed 208 lbs.

In my opinion the vessel is eligible for the record + LMC 6.15.

It is submitted that this vessel is eligible for THE RECORD + LMC 6.15.

JUR
13/6/15
APR

The amount of Entry Fee ... £ *0* : *0* : *0* When applied for, *21-6-1915*
Special ... £ *11* : *14* : *0*
Donkey Boiler Fee ... £ *✓* : : : When received, *30/6/1915*
Travelling Expenses (if any) £ *✓* : : : *1915*

Committee's Minute *FRI. JUN. 25. 1915*

Assigned *+ Lmc 6.15*

MACHINERY CERTIFICATE
NOTED

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



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Foundation