

REPORT ON MACHINERY

No. 28359

THU. MAR. 18. 1915

Received at London Office

Date of writing Report 3rd Feb. 1915 Then handed in at Local Office 3. 2 - 15 Port of Hull
 No. in Survey held at Hull Date, First Survey 28. 7. 14 Last Survey 27. 1. 1915
 Reg. Book. Lupt 26 on the Steel screw bawler Grackle (Number of Visits 49)
 Master Grote Built at Grote By whom built Grote J B & Rapp 802nd When built 1915
 Engines made at Hull By whom made Charles 802nd (1915) when made 1915
 Boilers made at Hull By whom made Charles 802nd when made 1915
 Registered Horse Power Kelall Bros & Beuching 14 Port belonging to Hull
 Nom. Horse Power as per Section 28 55 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" - 21" - 33" Length of Stroke 21" Revs. per minute as per rule 7.38 Material of screw shaft as fitted 7 3/4
 Is the screw shaft fitted with a continuous liner the whole length of the stern tube no 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 yes 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 2-11 1/2"
 Dia. of Tunnel shaft as per rule 5.74 Dia. of Crank shaft journals as per rule 6.03 Dia. of Crank pin 6 1/2" Size of Crank webs 12 1/2" x 4 1/2" Dia. of thrust shaft under
 collars 6 1/2" Dia. of screw 9-6" Pitch of Screw 7-0" No. of Blades 4 State whether moveable no Total surface 32
 No. of Feed pumps one Diameter of ditto 2 1/2" Stroke 10" Can one be overhauled while the other is at work yes
 No. of Bilge pumps one Diameter of ditto 2 1/2" Stroke 10" Can one be overhauled while the other is at work yes
 No. of Donkey Engines one & 2 1/2" Sizes of Pumps 4 1/2" x 2 3/4" x 4" No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room one 2" dia In Holds, &c. one two" in in each compartment
all suction also connected to ejector
 No. of Bilge Injections yes sizes 3 1/2" Connected to condenser, or to circulating pump yes 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 plate yes
 What pipes are carried through the bunkers none How are they protected yes
 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 13. 11. 14 of Stern Tube 13. 11. 14 Screw shaft and Propeller 13. 11. 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 Steel 80 of Lutterland
 Total Heating Surface of Boilers 900 Is Forced Draft fitted no No. and Description of Boilers one single ended
 Working Pressure 160 Tested by hydraulic pressure to 320 Date of test 16-12-14 No. of Certificate 3049
 Can each boiler be worked separately yes Area of fire grate in each boiler 20.54 No. and Description of Safety Valves to
 each boiler two spring loaded Area of each valve 3.14 Pressure to which they are adjusted 165 lbs. Are they fitted with easing gear yes
 Smallest distance between boilers or uptakes and bunkers or woodwork abt 12" Mean dia. of boilers 126" Length 9-6" Material of shell plates S
 Thickness 27/32 Range of tensile strength 28-32 Are the shell plates welded or flanged no Descrip. of riveting: cir. seams double
 long. seams R. R. D. B. 1 Diameter of rivet holes in long. seams 1 1/8" Pitch of rivets 5 3/8" Top of plates or width of butt straps 1 1/2"
 Per centages of strength of longitudinal joint 80-2 Working pressure of shell by rules 161 Size of manhole in shell 16" x 12"
 Size of compensating ring 8" x 27/32 No. and Description of Furnaces in each boiler 2 plain Material S Outside diameter 34"
 Length of plain part top 76 1/2" Thickness of plates bottom 72 1/2" Description of longitudinal joint welded No. of strengthening rings yes
 Working pressure of furnace by the rules 177 Combustion chamber plates: Material S Thickness: Sides 5/8" Back 2 1/2" Top 5/8" Bottom 5/8"
 Pitch of stays to ditto: Sides 9" x 8 1/2" Back 10" x 9" Top 9" x 7 1/2" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 165
 Material of stays S Diameter at smallest part 1 7/8" Area supported by each stay 76.5 Working pressure by rules 164 End plates in steam space:
 Material S Thickness 7/8" Pitch of stays 5" x 15" How are stays secured by nuts Working pressure by rules 161 Material of stays S
 Diameter at smallest part 4.22 Area supported by each stay 22.5 Working pressure by rules 195 Material of Front plates at bottom S
 Thickness 7/8" Material of Lower back plate S Thickness 7/8" Greatest pitch of stays 14" x 9" Working pressure of plate by rules 191
 Diameter of tubes 3" Pitch of tubes 4 1/2" x 4 3/8" Material of tube plates S Thickness: Front 7/8" Back 1 1/8" Mean pitch of stays 9"
 Pitch across wide water spaces 14" Working pressures by rules 160 1/4 Girders to Chamber tops: Material S Depth and
 thickness of girder at centre 7 1/2" x 1 1/2" Length as per rule 27 3/32 Distance apart 7 1/2" Number and pitch of stays in each two 9"
 Working pressure by rules 225 Superheater or Steam chest; how connected to boiler no Can the superheater be shut off and the boiler worked
 separately no Diameter 28 3/4" Length 30" Thickness of shell plates 5/8" Material S Description of longitudinal joint welded Diam. of rivet
 holes 1" Pitch of rivets 3 1/4" Working pressure of shell by rules 370 Diameter of flue yes Material of flue plates yes Thickness
 If stiffened with rings yes Distance between rings yes Working pressure by rules yes End plates: Thickness 5/8" How stayed disked
 Working pressure of end plates 160 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 each top and bottom end connecting rod bolts and nuts, two main bearing bolts and nuts, one set of coupling bolts and nuts, one set each feed and bilge pump valves, iron of various, a quantity of assorted bolts, nuts etc.

The foregoing is a correct description.

FOR EARLE'S
SHIPBUILDING & ENGINEERING CO. LIMITED.

W. H. Hackett

Manufacturer.

ASSISTANT MANAGER.

Dates of Survey while building { During progress of work in shops -- 1914: July 28, Aug 10, 17, 19, 21, 26 Sep 3, 9, 10, 19, 25, 30 Oct 6, 8, 13, 20, 22, 27, 28 Nov 2, 6
During erection on board vessel -- Nov 7, 9, 12, 13, 16, 17, 18, 19, 24, 26, 30 Dec 1, 7, 9, 11, 15, 16, 17, 19, 22, 23, 28, 29, 30 Jan 4, 5, 8, 27
Total No. of visits 49

Is the approved plan of main boiler forwarded herewith

yes.

Dates of Examination of principal parts—Cylinders 7-12-14 Slides 15-12-14 Covers 15-12-14 Pistons 7-12-14 Rods 30-11-14
Connecting rods 17-12-14 Crank shaft 28-11-14 Thrust shaft 28-11-14 Tunnel shafts ✓ Screw shaft 9-11-14 Propeller 7-11-14
Stern tube 9-11-14 Steam pipes tested 5-1-14 Engine and boiler seatings 22-12-14 Engines holding down bolts 30-12-14
Completion of pumping arrangements 27.1.15. Boilers fixed 4-1-15 Engines tried under steam 8.1.15.
Main boiler safety valves adjusted 8.1.15. Thickness of adjusting washers SV 1/2" PV 3/8".

Material of Crank shaft Steel Identification Mark on Do. 1358 FLS Material of Thrust shaft Steel Identification Mark on Do. 1359 FLS

Material of Tunnel shafts ✓ Identification Marks on Do. ✓ Material of Screw shafts Iron Identification Marks on Do. 1373 FLS

Material of Steam Pipes solid drawn copper ✓ Test pressure 400 lb ✓

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 Kildare, Trumpeter, Lorn, etc ✓

General Remarks (State quality of workmanship, opinions as to class, &c. The engines and boiler

of this vessel have been constructed under special survey in accordance with the Rules. The materials and workmanship are sound and good. The Boiler tested by hydraulic pressure and with the engines secured on board and tested under steam they are now in good order and safe-working condition and respectfully submitted as being eligible in my opinion to be classed with the notation of + LMC 1.15 in the Register book.

It is submitted that
this vessel is eligible for
THE RECORD + LMC 1.15.

The amount of Entry Fee £ 1 : 0 :
Special £ 8 : 5 :
Donkey Boiler Fee £ ✓
Travelling Expenses (if any) £ ✓

When applied for,

17.3.19.15

When received,

24 Mar. 19.15

Committee's Minute. FRI. MAR. 19.1915

Assigned + LMC 1.15

Frank L. Stanger J.B. Mackillop
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.



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