

Lon Rpt No. 83096

Rpt. 4.

REPORT ON MACHINERY.

No. 312

Received at London Office WED. 5 FEB. 1919

Date of writing Report 1/2/19 When handed in at Local Office 1/2/19 Port of SHEFFIELD

No. in Survey held at SONERBY BRIDGE Date, First Survey 17/6/18 Last Survey 19

Reg. Book. on the DRIFTER ENGINE N° 136 S.S. "GROSS" (Number of Visits)

Master Built at LOWESTOFT By whom built COLBY BRIS N° 99 When built 1919

Engines made at SONERBY BRIDGE By whom made POLLARD & WAZELL LTD when made 1918

Boilers made at Lincoln By whom made Ruston & Hornsby Ltd when made 1918

Registered Horse Power 270 Owners BRITISH ADMIRALTY Port belonging to

Nom. Horse Power as per Section 28 42.4 Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted No

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

Dia. of Cylinders 9 1/2" x 15 1/2" x 26" Length of Stroke 18" Revs. per minute 5.45 Dia. of Screw shaft 5 1/2" Material of screw shaft Steel

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 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 24"

Dia. of Tunnel shaft 4.796" Dia. of Crank shaft journals 5 1/2" Dia. of Crank pin 5 1/2" Size of Crank webs 6" x 3 1/2" Dia. of thrust shaft under collars 5 1/2" Dia. of screw 6.19" Pitch of Screw 8.6" No. of Blades 4 State whether moveable No Total surface 18.5

No. of Feed pumps 2 Diameter of ditto 2 1/2" Stroke 9" Can one be overhauled while the other is at work Yes

No. of Bilge pumps 2 Diameter of ditto 2 1/2" Stroke 9" Can one be overhauled while the other is at work Yes

No. of Donkey Engines one Sizes of Pumps 5 1/2" x 3 1/2" x 5" Duplex No. and size of Suctions connected to both Bilge and Donkey pumps In Engine Room Two 2" one ejector 2" In Holds, &c. One 2"

No. of Bilge Injections one sizes 2 1/2" Connected to condenser, or to circulating pump e. j. p. Is a separate Donkey Suction fitted in Engine room & size Yes 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 Yes

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

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

Total Heating Surface of Boilers 814.5 Is Forced Draft fitted Yes No. and Description of Boilers One single ended

Working Pressure 180 lb Tested by hydraulic pressure to 360 lb Date of test 20-12-18 No. of Certificate 172

Can each boiler be worked separately Yes Area of fire grate in each boiler 30.5 No. and Description of Safety Valves to each boiler 2. Spring loaded Area of each valve 3.98 Pressure to which they are adjusted 180 lb Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork 6" INT. dia. of boilers 10'-0" Length 9'-6" Material of shell plates

Thickness 1/2" Range of tensile strength 45,000-50,000 Are the shell plates welded or flanged Yes Descrip. of riveting: cir. seams

long. seams 1/2" Diameter of rivet holes in long. seams 1/2" Pitch of rivets 2" Lap of plates or width of butt straps

Per centages of strength of longitudinal joint rivets 85% Working pressure of shell by rules 180 lb Size of manhole in shell

Size of compensating ring 12" No. and Description of Furnaces in each boiler 1. Crown Material Steel Outside diameter

Length of plain part 10'-0" Thickness of plates 1/2" Description of longitudinal joint Butt No. of strengthening rings

Working pressure of furnace by the rules 180 lb Combustion chamber plates: Material Steel Thickness: Sides 1/2" Back 1/2" Top 1/2" Bottom 1/2"

Pitch of stays to ditto: Sides 12" Back 12" Top 12" If stays are fitted with nuts or riveted heads Yes Working pressure by rules

Material of stays Steel Area at smallest part 12" Area supported by each stay 12" Working pressure by rules 180 lb End plates in steam space:

Material Steel Thickness 1/2" Pitch of stays 12" How are stays secured With nuts Working pressure by rules 180 lb Material of stays

Area at smallest part 12" Area supported by each stay 12" Working pressure by rules 180 lb Material of Front plates at bottom

Thickness 1/2" Material of Lower Deck plate Steel Thickness 1/2" Greatest pitch of stays 12" Working pressure of plate by rules

Diameter of tubes 1 1/2" Pitch of tubes 12" Material of tube plates Steel Thickness: Front 1/2" Back 1/2" Mean pitch of stays

Pitch across wide water spaces 12" Working pressures by rules 180 lb Girders to Chamber tops: Material Steel Depth and thickness of girder at centre 12" Length as per rule 12" Distance apart 12" Number and pitch of stays in each 12"

Working pressure by rules 180 lb Steam dome: description of joint to shell Butt % of strength of joint 85%

Diameter 12" Thickness of shell plates 1/2" Material Steel Description of longitudinal joint Butt Diam. of rivet holes 1/2"

Pitch of rivets 1/2" Working pressure of shell by rules 180 lb Crown plates 1/2" Thickness 1/2" How stayed With nuts

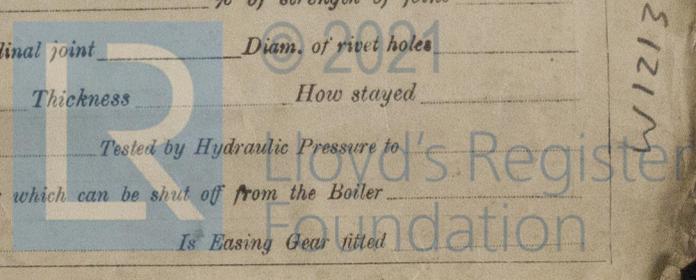
SUPERHEATER. Type Horizontal Date of Approval of Plan 1918 Tested by Hydraulic Pressure to 180 lb

Date of Test 1918 Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler Yes

Diameter of Safety Valve 1 1/2" Pressure to which each is adjusted 180 lb Is Easing Gear fitted Yes

Y.K. 5/2/19

910-3121W 1213-0166



IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:—

2 Bonrod top End bolts ✓
 2 " " bolt " " ✓
 2 Main heavy bolts ✓
 1 set coupling bolts ✓
 1 set feed, bilge, cut air pp valves ✓
 6 Condenser tubes + 12 fenders ✓

24 Assorted bolts + nuts ✓
 6 Cylinder cover studs + nuts ✓
 6 Junk ring bolts + nuts ✓
 1 Valve for main + 1 for donkey check ✓
 1 Spring for safety valve ✓
 6 gauge glasses + rings ✓
 3 plain boiler tubes ✓
 1 set of fire bars + turning bars for both furnaces ✓

The foregoing is a correct description.

PORTFOLIO & WIGZELL LIMITED.

E. Pollitt

Manufacturer.

Dates of Survey while building
 During progress of work in shops -- 17/6. 2/7. 17/7. 1/8. 12/8. 12/9. 28/9. 1/10. 10/10. 25/10. 1/11. 8/11. 15/11. 25/11. 2/12. 10/12. 23/12. 31/12
 During erection on board vessel --- 1919 - Mar 12. Apr 7. 16. 25. May 9. 28. June 5. 26. July 7. 8. 9. 17. 29
 Total No. of visits 31

Is the approved plan of main boiler forwarded herewith

" " " donkey " " "

Dates of Examination of principal parts—Cylinders 17/6/19 Slides 17/6/19 Covers 1/8/19 Pistons 18/5/19 Rods 1/8/19
 Connecting rods 1/8/19 Crank shaft 1/8/19 Thrust shaft 1/8/19 Tunnel shafts --- Screw shaft 1/8/19 Propeller 1/8/19
 Stern tube 1/8/19 Steam pipes tested 26-6-19 Engine and boiler seatings 24-1-19 Engines holding down bolts 4-4-19
 Completion of pumping arrangements 8-7-19 Boilers fixed 12-3-19 Engines tried under steam 8-7-19
 Completion of fitting sea connections 31-12-18 Stern tube 31-12-18 Screw shaft and propeller 31-12-18
 Main boiler safety valves adjusted 8-7-19 Thickness of adjusting washers $P \frac{3}{8}$ $S \frac{13}{32}$
 Material of Crank shaft *Steel* Identification Mark on Do. 4708 Material of Thrust shaft *Steel* Identification Mark on Do. 4701
 Material of Tunnel shafts ✓ Identification Marks on Do. --- Material of Screw shafts *Steel* Identification Marks on Do. 4707
 Material of Steam Pipes *Copper* Test pressure 360 lbs per sq in
 Is an installation fitted for burning oil fuel ✓ 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 *Drift Engine*

General Remarks (State quality of workmanship, opinions as to class, &c. *The machinery of this vessel has been built under special survey and in accordance with the specification and the Society's Rules, materials and workmanship are sound and good. The Engines + boiler examined whilst being installed in the vessel, afterwards tried under full power, and found satisfactory, the safety valves adjusted to 180 lbs. and is now eligible in our opinion for the record of + L.M.C. 8-19. in the Register Book.*

It is submitted that this vessel is eligible for THE RECORD. + LMC 7. 19.

JWD 22/8/19

ARR

P. F. Mottou A. R. Farminer
Engineer Surveyor to Lloyd's Register of Shipping.

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

The amount of Entry Fee ... £ : :
 Special ... £ 9-0-0
 Donkey Boiler Fee £ 4-10-0
 Travelling Expenses (if any) £ : :
 When applied for, Jan 27 1919
 When received, 29th 10/15/19

Committee's Minute Assigned June 7. 19

MANUFACTURE CERTIFICATE WRITTEN