

REPORT ON MACHINERY.

No. 27211

Date of writing Report 16 APR 1918 Port of Sunderland Received at London Office WED. 17 APR. 1918

No. in Survey held at Sunderland Date, First Survey 22 Mar. 17 Last Survey April 1918
 Reg. Book. on the new steamer S/S "SUNLAND" (Number of Visits 56)

Master Mordant Built at Sunderland By whom built J. Priestman & Co (S/N 263) Tons { Gross 3793
 Net 2337 When built 1918

Engines made at Sunderland By whom made George Blanks Ltd (N. 1060) when made 1918
 Boilers made at Sunderland By whom made George Blanks Ltd (N. 1060) when made 1918

Registered Horse Power 384 Owners Sun Shipping Co. Ltd Port belonging to London
 Nom. Horse Power as per Section 28 384 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 25"-41"-67" Length of Stroke 45" Revs. per minute 74 Dia. of Screw shaft as per rule 13.92 Material of 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 — 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 5'-3"
 Dia. of Tunnel shaft as per rule 12.39 Dia. of Crank shaft journals as per rule 13.01 Dia. of Crank pin 13 1/2" Size of Crank webs 8 1/2" x 19 1/2" Dia. of thrust shaft under
 collars 13 1/2" Dia. of screw 14'-0" Pitch of Screw 15'-6" No. of Blades 4 State whether moveable no Total surface 92 ft
 No. of Feed pumps 2 Diameter of ditto 3 1/2" Stroke 26" Can one be overhauled while the other is at work yes
 No. of Bilge pumps 2 Diameter of ditto 4 1/2" Stroke 26" Can one be overhauled while the other is at work yes
 No. of Donkey Engines 2 Sizes of Pumps 9x10x10 7 1/2x8x6 No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room 3 @ 3 1/2" In Holds, &c. N. 1 hold. 2 @ 3 1/2" N. 2 hold. 2 @ 3 1/2"
 No. of Bilge Injections one size 6" Connected to condenser, or to circulating pump no Is a separate Donkey Suction fitted in Engine room & size yes. 3 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 none
 Are all connections with the sea direct on the skin of the ship yes Are they Valves or Cocks both
 Are they sized 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 feed & below
 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 forward hold suction How are they protected under 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 30-1-18 of Stern Tube 16-2-18 Screw shaft and Propeller 18-2-18
 Is the Screw Shaft Tunnel watertight yes Is it fitted with a watertight door yes worked from top platform

BOILERS, &c.—(Letter for record) S Manufacturers of Steel John Spencer & Sons Ltd

Total Heating Surface of Boilers 5364 ft Is Forced Draft fitted yes No. and Description of Boilers three single ended marine
 Working Pressure 180 Tested by hydraulic pressure to 360 Date of test 20-9-17 No. of Certificate 3429
 Can each boiler be worked separately yes Area of fire grate in each boiler 43 ft No. and Description of Safety Valves to
 each boiler two direct opening Area of each valve 7.67 ft Pressure to which they are adjusted 185 Are they fitted with easing gear yes
 Smallest distance between ~~boilers~~ or uptakes and bunkers or ~~work~~ 2'-2" Mean dia. of boilers 13'-6" Length 10'-6" Material of shell plates steel
 Thickness 1 1/2" Range of tensile strength 29-33 ton Are the shell plates welded or flanged no Descrip. of riveting: cir. seams DR
 long. seams DBS TR Diameter of rivet holes in long. seams 1 1/8" Pitch of rivets 7 3/8" Lap of plates or width of butt straps 16"
 Per centages of strength of longitudinal joint 86.5 Working pressure of shell by rules 180 Size of manhole in shell 16" x 12"
 Size of compensating ring flanged No. and Description of Furnaces in each boiler 3 plain Material steel Outside diameter 3'-3 3/4"
 Length of plain part top 6'-4 1/2" bottom 5'-11 1/2" Thickness of plates top 1 1/2" bottom 1 1/4" Description of longitudinal joint welded No. of strengthening rings none
 Working pressure of furnace by the rules 180 Combustion chamber plates: Material steel Thickness: Sides 1 1/8" Back 45" Top 1 1/8" Bottom 1 1/8"
 Pitch of stays to ditto: Sides 9 1/2" x 9 1/2" Back 10 1/8" x 9 1/2" Top 10" x 9" If stays are fitted with nuts or riveted heads nut & washer Working pressure by rules 180
 Material of stays steel Diameter at smallest part 2.030" Area supported by each stay 93.60" Working pressure by rules 195 End plates in steam space:
 Material steel Thickness 1 1/2" Pitch of stays 20 3/8" x 18" How are stays secured DN Working pressure by rules 180 Material of stays steel
 Diameter at smallest part 1.060" Area supported by each stay 38.60" Working pressure by rules 189 Material of Front plates at bottom steel
 Thickness 1 3/8" Material of Lower back plate steel Thickness 2 1/2" Greatest pitch of stays 15 1/8" x 9 1/4" Working pressure of plate by rules 181
 Diameter of tubes 2 1/2" Pitch of tubes 3 3/4" x 3 5/8" Material of tube plates steel Thickness: Front 1 3/8" Back 3/4" Mean pitch of stays 9 3/8"
 Pitch across wide water spaces 14" + 1 1/8" Working pressures by rules 262 Girders to Chamber tops: Material steel Depth and
 thickness of girder at centre 20 8/8" x 1 1/8" Length as per rule 2'-7" Distance apart 10" Number and pitch of stays in each 2 @ 9"
 Working pressure by rules 184 Superheater or Steam chest; how connected to boiler none 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 DONKEY BOILER FITTED? no

If so, is a report now forwarded? ✓

SPARE GEAR. State the articles supplied: Two connecting rod top and bottom end bolts and nuts, two main bearing bolts, one set of coupling bolts, one set of feed and bilge pump valves, iron and bolts of various sizes, one propeller.

RETAIN

The foregoing is a correct description,

FOR GEORGE CLARK LIMITED.

James C. Clark

Manufacturer.

Dates of Survey while building { During progress of work in shops - - 1917 Mar 22 May 10 11 15 Jun 6 8 Jul 4 17 13 23 25 Aug 2 3 4 13 20 29 Sep 7 12 13 18 20 Oct 1 2 4 9
During erection on board vessel - - - 12 15 17 25 29 Nov 1 2 5 8 13 27 30 Dec 3 6 7 11 Jan 9 30 Feb 16 18 19 20 22 25 26 28 Mar 1 6 7 Apr 16
Total No. of visits (56)

Is the approved plan of main boiler forwarded herewith yes

" " " donkey " " " ✓

Dates of Examination of principal parts—Cylinders 5-11-17 Slides 30-11-17 Covers 13-11-17 Pistons 1-11-17 Rods 8-11-17
Connecting rods 2-11-17 Crank shaft 4-10-17 Thrust shaft 17-10-17 Tunnel shafts 29-10-17 Screw shaft 6-12-17 Propeller 16-2-18
Stern tube 6-12-17 Steam pipes tested 7-12-17 Engine and boiler seatings 30-1-18 Engines holding down bolts 25-2-18
Completion of pumping arrangements 26-2-18 Boilers fixed 22-2-18 Engines tried under steam 6-3-18
Main boiler safety valves adjusted 6-3-18 Thickness of adjusting washers Port 1 1/2" P 5 3/8" Centre 1 1/2" P 5 3/8" Starboard 1 1/2" P 5 3/8"
Material of Crank shaft Steel Identification Mark on Do. 193 J.O. Material of Thrust shaft Steel Identification Mark on Do. 193 J.O.
Material of Tunnel shafts Steel Identification Marks on Do. 193 J.O. Material of Screw shafts Steel Identification Marks on Do. 193 J.O.
Material of Steam Pipes Sapwooded steel Test pressure 540 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 no If so, state name of vessel ✓

General Remarks (State quality of workmanship, opinions as to class, &c.)

The materials and workmanship are good.

The machinery has been constructed under special survey and is eligible in our opinion for classification and the record + LMC 4, 18

It is submitted that
this vessel is eligible for
THE RECORD. + LMC 4.18.

W.D. 18/4/18

The amount of Entry Fee £ 3 : : When applied for, 8.4.1918
Special £ 39 : 4 : :
Donkey Boiler Fee £ : : : When received, 24.5.18
Travelling Expenses (if any) £ : : : 29.5.18

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

Committee's Minute FRI APR 19 1918.

Assigned

+ L.M.C. 4.18

MACHINERY CERTIFICATE
WRITTEN



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Foundation