

REPORT ON MACHINERY.

No. 10980

Date of writing Report 4th July 1921 When handed in at Local Office 19 Port of Southampton SAT. JUL. 9 1921
No. in Survey held at Comes. Isle of Wight Date, First Survey 4th Oct. 1920 Last Survey 2nd July 1921
Reg. Book. on the S.S. "RAYLIGHT" (Number of Visits 18) Gross 719.15
Master Comes Built at Comes By whom built J.S. White & Co. Ltd Tons Net 288.16
Engines made at Comes By whom made J.S. White & Co. Ltd when made 1921
Boilers made at Comes By whom made J.S. White & Co. Ltd when made 1921
Registered Horse Power 126 Owners Light Shipping Co. Port belonging to Greenwich
Nom. Horse Power as per Section 28 126 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted yes

ENGINES, &c.—Description of Engines Triple Expnd Surface Condensing No. of Cylinders 3 No. of Cranks 3
Dia. of Cylinders 15"-25½"-41" Length of Stroke 30" Revs. per minute 105 Dia. of Screw shaft 8½" 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 3'-0½"
Dia. of Tunnel shaft 8½" Dia. of Crank shaft journals 8½" Dia. of Crank pin 8½" Size of Crank webs 5½" Dia. of thrust shaft under
collars 8½" Dia. of screw 10'-6" Pitch of Screw 11'-6" No. of Blades 4 State whether moveable No Total surface 37 ft²
No. of Feed pumps 2 Diameter of ditto 2¼" Stroke 15" Can one be overhauled while the other is at work yes
No. of Bilge pumps 2 Diameter of ditto 2½" Stroke 15" Can one be overhauled while the other is at work yes
No. of Donkey Engines 3 Sizes of Pumps 7x5x12 or 7x4½x8 No. and size of Suctions connected to both Bilge and Donkey pumps
In Engine Room 2-2½" and 2-2" In Holds, &c. 2-2" from Holdwell.

No. of Bilge Injections 1 sizes 5" Connected to condenser, or to circulating pump C. Pump Is a separate Donkey Suction fitted in Engine room & size yes. 2½"
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 Feed. 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

Is the Screw Shaft Tunnel watertight None Is it fitted with a watertight door — worked from —
BOILERS, &c.—(Letter for record S) Manufacturers of Steel The Park Gate Iron & Steel Co. Ltd
Total Heating Surface of Boilers 2324 ft² Is Forced Draft fitted No No. and Description of Boilers 2 Single Ended
Working Pressure 180 lb. Tested by hydraulic pressure to 360 lb. Date of test 21-4-21 No. of Certificate 380 & 381
Can each boiler be worked separately yes Area of fire grate in each boiler 33 ft² No. and Description of Safety Valves to
each boiler 2 Spring Loaded Area of each valve 3.97" Pressure to which they are adjusted 182 lb. Are they fitted with easing gear yes
Smallest distance between boilers or uptakes and bunkers or woodwork 5'-3" Mean dia. of boilers 10'-9" Length 10'-9½" Material of shell plates steel
Thickness 15" Range of tensile strength 28 to 32 Are the shell plates welded or flanged No Descrip. of riveting: cir. seams D.R. LAP.
long. seams T.R. BUTT STRAPS Diameter of rivet holes in long. seams 1½" Pitch of rivets 7½" Lap of plates or width of butt straps 16½"
Per centages of strength of longitudinal joint 91.46 Working pressure of shell by rules 191 Size of manhole in shell 16x12"
Size of compensating ring 2-7¼x2-3¼ No. and Description of Furnaces in each boiler 2 Corrugated Material steel Outside diameter 5'-3½"
Length of plain part — Thickness of plates — Description of longitudinal joint Welded No. of strengthening rings —
Working pressure of furnace by the rules 192.4 Combustion chamber plates: Material steel Thickness: Sides 5/8" Back 3/8" Top 4/8" Bottom 5/8"
Pitch of stays to ditto: Sides 8½x8½ Back 9x8½ Top 8½x10½ If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 187.2
Material of stays steel Area at smallest part 1.79" Area supported by each stay 89.25 Working pressure by rules 180.5 End plates in steam space:
Material steel Thickness 1½" Pitch of stays 1-11x1-1 How are stays secured DOUBLE NUTS Working pressure by rules 181.4 Material of stays steel
Area at smallest part 5.284 Area supported by each stay 299 Working pressure by rules 183.1 Material of Front plates at bottom steel
Thickness 1" Material of Lower back plate steel Thickness 13/16" Greatest pitch of stays 8½x13" Working pressure of plate by rules 185.8
Diameter of tubes 3½" Pitch of tubes 4½x4½ Material of tube plates steel Thickness: Front 1" Back 13/16" Mean pitch of stays 9"
Pitch across wide water spaces 14" Working pressures by rules 182.6 Girders to Chamber tops: Material steel Depth and
thickness of girder at centre 9x13" Length as per rule 2'-4½" Distance apart 10½" Number and pitch of stays in each 2-8½"
Working pressure by rules 197.8 Steam dome: description of joint to shell — % of strength of joint —
Diameter — Thickness of shell plates — Material — Description of longitudinal joint — Diam. of rivet holes —
Pitch of rivets — Working pressure of shell by rules — Crown plates — Thickness — How stayed —
SUPERHEATER. Type — Date of Approval of Plan — Tested by Hydraulic Pressure to —
Date of Test — Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler —
Diameter of Safety Valve — Pressure to which each is adjusted — Is Easing Gear fitted —

W382-0097

IS A DONKEY BOILER FITTED?

No

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:— 2 Conn^g Rod top-end bolts & nuts. 2 Conn^g Rod bottom-end bolts & nuts. 2 Main Bearing bolts & nuts. 1 Set of Coupling bolts. 1 Feed pump suction valve and 1 Feed pump discharge valve. 1 Bilge pump suction valve and 1 Bilge pump discharge valve. 12 Gunthring studs & nuts. 1 Escape valve spring of each size. 2 Pump link frames. 36 Condenser tubes. 18 Condenser tube females. 1 set of air pump valves. 2 Eccentric strap bolts & nuts. 12 Eccentric rod top end bolts & nuts. 24 Boiler tubes. 1 set of Safety Valve springs. 2 Feed check valves. 50 Assorted bolts & nuts. Flat & round iron of various sizes.

The foregoing is a correct description,
For J. Samuel White & Company. Ltd.

J. Samuel White

Managing Director.

Manufacturer.

Dates of Survey while building	{	During progress of work in shops --	$\frac{4}{10}, \frac{8}{11}, 1920.$	$\frac{6.25}{1}, \frac{3.8.21}{2}, \frac{11.31}{3}, \frac{7.21}{4}, 1921$
		During erection on board vessel ---	$\frac{2.25}{5}, \frac{1.7.9}{6}, \frac{1.2}{7}, 1921$	
		Total No. of visits	18.	

Is the approved plan of main boiler forwarded herewith yes

" " " donkey " " "

Dates of Examination of principal parts—Cylinders 21-2-21 Slides 21-2-21 Covers 21-2-21 Pistons 11-3-21 Rods 6-1-21
Connecting rods 6-1-21 Crank shaft 25-1-21 Thrust shaft 8-11-20 Tunnel shafts ✓ Screw shaft 21-2-21 Propeller 11-3-21
Stern tube 3-2-21 Steam pipes tested 7-6-21 Engine and boiler seatings 2-5-21 Engines holding down bolts 1-6-21
Completion of pumping arrangements 7-6-21 Boilers fixed 2-5-21 Engines tried under steam 2-7-21
Completion of fitting sea connections 21-2-21 Stern tube 21-2-21 Screw shaft and propeller 11-3-21
Main boiler safety valves adjusted 2-7-21 Thickness of adjusting washers Pat 134. { $P = \frac{7}{16}$ } $S = \frac{5}{16}$ } Start 134. { $P = \frac{7}{16}$ } $S = \frac{5}{16}$ }
Material of Crank shaft Steel Identification Mark on Do. ✓ Material of Thrust shaft Steel Identification Mark on Do. ✓
Material of Tunnel shafts ✓ Identification Marks on Do. ✓ Material of Screw shafts Steel Identification Marks on Do. ✓
Material of Steam Pipes Copper Test pressure 360 lbs.

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 No If so, state name of vessel ✓

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

The Machinery and Boilers have been built under special Survey and during erection on board.

The materials and workmanship are sound and good.

The spare gear is in order with the rule requirements.

On trial the machinery proved satisfactory and the same is eligible in my opinion to have notation + L.M.C. 7.21.

A Electric Light Installation has been fitted in accordance with the rule requirements and a report will be forwarded when received from the Contractors.

It is submitted that
this vessel is eligible for
THE RECORD. + L.M.C. 7.21 C.L.

Roll

15/7/21

A.A. Boyle

The amount of Entry Fee ...	£ 3 : 0 :	When applied for,
Special ...	£ 31 : 10 :	8 th July 1921
Donkey Boiler Fee ...	£ : :	When received,
Travelling Expenses (if any) £	1 : 8 :	2-9-21

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI 15 JUL 1921

Assigned

+ L.M.C. 7.21

C.L.

MACHINERY CERT
WRITTEN



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Lloyd's Register
Foundation