

REPORT ON MACHINERY.

No. 28362

WED. JUL. 4 1922

Date of writing Report 19 When handed in at Local Office 4 JUL 1922 Port of SUNDERLAND.
 No. in Survey held at SUNDERLAND. Date, First Survey 15th Decr. 1920 Last Survey 4th July 1922
 Reg. Book. on the new steel S/S "S.N.A.7." (Number of Visits 37)

Master Built at Sunderland By whom built Osborne & Graham & Co (S/N 245) Tons Gross 2652 Net 1366
 Engines made at Sunderland By whom made Richardson Westgarth & Co Ltd (N 2165) when made 1922
 Boilers made at Sunderland By whom made Richardson Westgarth & Co Ltd (N 2165) when made 1922
 Registered Horse Power Owners Soc. Nationale d'Affrètements Port belonging to Havre
 Nom. Horse Power as per Section 28 316 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 23½" - 38" - 64" Length of Stroke 42" Revs. per minute 70 Dia. of Screw shaft as per rule 12.98" Material of screw shaft as fitted 13½" (Whit 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 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
 Dia. of Tunnel shaft as per rule 11.6" Dia. of Crank shaft journals as per rule 12.2" Dia. of Crank pin 13" Size of Crank webs 24½" x 7¾" Dia. of thrust shaft under collars 12½" Dia. of screw 15'9" Pitch of Screw 16'6" No. of Blades 4 State whether moveable no Total surface 78 sq ft
 No. of Feed pumps 2 Diameter of ditto 6" Stroke 18" Can one be overhauled while the other is at work (Woodson's) steam cyl 8"
 No. of Bilge pumps 2 Diameter of ditto 3½" Stroke 27" Can one be overhauled while the other is at work yes
 No. of Donkey Engines 3 Sizes of Pump 2 @ 10" x 12" x 21" 1 @ 7" x 5" x 8" No. and size of Suctions connected to both Bilge and Donkey pumps In Engine Room 3 @ 3" & 1 @ 2½" In Holds, &c. Fore hold, - 2 @ 3". After hold, 3 @ 3"
 Tunnel well, - 1 @ 2½"
 No. of Bilge Injections 1 sizes 7" Connected to condenser, or to circulating pump C.P. Is a separate Donkey Suction fitted in Engine room & size yes, 3½"
 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 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
 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 Spence & Sons Ltd.
 Total Heating Surface of Boilers 52640 sq ft Is Forced Draft fitted no No. and Description of Boilers Two, single ended marine.
 Working Pressure 180 Tested by hydraulic pressure to 322 Date of test 25-1-22 No. of Certificate 3789
 Can each boiler be worked separately yes Area of fire grate in each boiler 71.5 sq ft No. and Description of Safety Valves to each boiler two, direct spring Area of each valve 8.290" Pressure to which they are adjusted 185 Are they fitted with easing gear yes
 Smallest distance between boilers or uptakes and bunkers or woodwork 18" Mean dia. of boilers 16'-0" Length 11'-9" Material of shell plates steel
 Thickness 1¼" Range of tensile strength 28¾ - 32¾ Are the shell plates welded or flanged no Descrip. of riveting: cir. seams WTR long. seams WBS, TR Diameter of rivet holes in long. seams 1 9/32" Pitch of rivets 8 5/8" Top of plates or width of butt straps 18"
 Per centages of strength of longitudinal joint rivets 89 plate 85 1/5 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 4 corrugated Material steel Outside diameter 43 9/16"
 Length of plain part top bottom Thickness of plates crown 1 1/32" bottom 1 1/32" Description of longitudinal joint welded No. of strengthening rings
 Working pressure of furnace by the rules 210 Combustion chamber plates: Material steel Thickness: Sides 1 1/16" Back 2 3/32" 1 1/16" Top 1 1/16" Bottom 1 1/16"
 Pitch of stays to ditto: Sides 9 3/4" x 9 3/4" Back 8 5/8" x 11 1/8" Top 9 3/4" x 9 3/4" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 180
 Material of stays steel Area at smallest part 2.030" Area supported by each stay 96.950" Working pressure by rules 190 End plates in steam space: Material steel Thickness 1 1/32" Pitch of stays 21 3/4" x 16" How are stays secured DN & W Working pressure by rules 182 Material of stays steel
 Area at smallest part 6.10" Area supported by each stay 21 3/4" x 16" Working pressure by rules 182 Material of Front plates at bottom steel
 Thickness 2 5/32" Material of Lower back plate steel Thickness 7/8" Greatest pitch of stays 14 1/4" x 9 1/2" Working pressure of plate by rules 180
 Diameter of tubes 3 3/4" Pitch of tubes 4 1/2" x 4 1/4" Material of tube plates steel Thickness: Front 2 5/32" Back 2 5/32" Mean pitch of stays 11 7/8"
 Pitch across wide water spaces 14" (1 1/16") Working pressures by rules 198 Girders to Chamber tops: Material steel Depth and thickness of girder at centre 9 @ 1 1/2" Length as per rule 32 1/2" Distance apart 9 1/4" Number and pitch of stays in each 2 @ 9 3/4"
 Working pressure by rules 189 Steam dome: description of joint to shell none % 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

If not, state whether, and when, one will be sent?

5405-5511M



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 screw shaft and one propeller

The foregoing is a correct description,
FOR RICHARDSONS, WESTGARTH & CO., L.

Richard Russell

Manufacturer.

Dates of Survey while building	During progress of work in shops --	1920. Dec. 15, 16, 22, 24	1921. Feb. 10	Mar. 21	Apr. 12, 28, 29	May 5, 6, 13, 20	June 2, 14	Sep. 8, 10, 17, 25									
		During erection on board vessel ---							Nov. 1, 12	Jan. 17, 24, 25	Feb. 22	Mar. 2, 15, 17, 20, 21, 27	Apr. 3, 5, 11	May 2, 4	June 22	July 4	
		Total No. of visits							37								

Is the approved plan of main boiler forwarded herewith copy

" " " donkey " " "

Dates of Examination of principal parts—Cylinders 14-6-21 Slides 24-1-22 Covers 18-11-21 Pistons 18-11-21 Rods 24-10-21
 Connecting rods 24-1-22 Crank shaft Hpl Thrust shaft 22-12-20 Tunnel shafts 2-3-22 Screw shaft 2-3-22 Propeller 2-3-22
 Stern tube 2-3-22 Steam pipes tested 2-3-22 & 5-4-22 Engine and boiler seatings 2-3-22 Engines holding down bolts 3-4-22
 Completion of pumping arrangements 22-6-22 Boilers fixed 27-3-22 Engines tried under steam 11-4-22
 Completion of fitting sea connections 2-3-22 Stern tube 17-3-22 Screw shaft and propeller 20-3-22
 Main boiler safety valves adjusted 11-4-22 Thickness of adjusting washers Port boiler, - both $\frac{13}{32}$ Stalk, - $\frac{17}{16}$, $5\frac{3}{8}$ "
 Material of Crank shaft 9. Steel Identification Mark on Do. 6261RDS Material of Thrust shaft 9. steel Identification Mark on Do. 5565EYR
 Material of Tunnel shafts Sump Dum Identification Marks on Do. 2507LCA Material of Screw shafts Sump Dum Identification Marks on Do. 2507LCA
 Material of Steam Pipes solid drawn copper Test pressure 400 lbs per sq"
 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 S/S "S.N.A.G." Sld Rpt No. 28212.

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 my opinion for classification and the record
+ LMC 7.22

It is submitted that this vessel is eligible for THE RECORD.

+ L.M.C. - 7.22. C.L.

L.J. 7/7/22.

A.F.H.

The amount of Entry Fee ...	£ 5 : -	When applied for.
Special ...	£ 72 : 8	26 th June 1922
Donkey Boiler Fee ...	£ :	When received.
Travelling Expenses (if any) £	:	22/7/22 H.W.M.

L.C. Davis.

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned

MACHINERY DEPT.
WRITTEN

+ L.M.C. 7.22. C.L.



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SUNDERLAND

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