

## REPORT ON MACHINERY.

No. 76258

Received at London Office SAT. 16 DEC. 1922

Date of writing Report

19

When handed in at Local Office

7/12/22 Port of

NEWCASTLE-ON-TYNE

No. in Survey held at Newcastle-on-Tyne

Date, First Survey 15 Aug 1921

Last Survey 6 Dec 1922

Reg. Book.

23/2 on the STEEL S.C. SAN MANUEL

(Number of Visits 89)

Master Built at Newcastle By whom built Palmers S.B. Co. Ltd. Tons } Gross 5989  
Net 3716

When built 1922

Engines made at Newcastle By whom made Palmers Co. Ltd. when made 1922

Boilers made at Newcastle By whom made Palmers Co. Ltd. when made 1922

Registered Horse Power Owners Eagle Oil Transport Co. Ltd. Port belonging to London.

Nom. Horse Power as per Section 28 549 Is Refrigerating Machinery fitted for cargo purposes No. Is Electric Light fitted Yes

MACHINES, &amp;c.—Description of Engines Inverted Triple Expansion No. of Cylinders 3 No. of Cranks 3

Dia. of Cylinders 37 1/2" - 46" - 77" Length of Stroke 48" Revs. per minute 74 Dia. of Screw shaft as per rule 15.93" 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

Is 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 13.588" Dia. of Crank shaft journals as per rule 14.268" Dia. of Crank pin 14 7/8" Size of Crank webs 28 1/2" x 10 1/4" Dia. of thrust shaft under

collars 15 3/4" Dia. of screw 18'-0" Pitch of Screw 17'-6" No. of Blades 4 State whether moveable Yes Total surface 96 sq ft

No. of Feed pumps Diameter of ditto Stroke Can one be overhauled while the other is at work Yes

To. of Bilge pumps 2 Diameter of ditto 4 1/2" Stroke 24" Can one be overhauled while the other is at work Yes

No. of Donkey Engines 3 Sizes of Pumps GEN. SERVICE 8x6x8" BALLAST 10x12x17" No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room S.H. 4 - 3 1/2" In Holds, &amp;c. NONE

No. of Bilge Injections 1 sizes 14" Connected to condenser, or to circulating pump pump Is a separate Donkey Suction fitted in Engine room &amp; size Yes - 6"

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 none How are they protected

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, &amp;c.—(Letter for record S) Manufacturers of Steel J. Spencer &amp; Sons Ltd.

Total Heating Surface of Boilers 7896 sq ft Is Forced Draft fitted Yes No. and Description of Boilers 3 S.E. CYLINDRICAL MULTITUBULAR

Working Pressure 180 LBS. Tested by hydraulic pressure to 320 LBS. Date of test 27.7.22 No. of Certificate 3674

Can each boiler be worked separately Yes Area of fire grate in each boiler OIL FUEL No. and Description of Safety Valves to

each boiler TWO- SPRING LOADED Area of each valve 11.045 sq in Pressure to which they are adjusted Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork 1'-6" Mean dia. of boilers 15'-6 1/16" Length 12'-0" Material of shell plates STEEL

Thickness 1 1/32" Range of tensile strength 30/34 sq in Are the shell plates welded or flanged No Descrip. of riveting: cir. seams D.R. LAP

Long. seams T.R. D.B.S. Diameter of rivet holes in long. seams 1 5/16" Pitch of rivets 8 15/16" Lap of plates or width of butt straps 19 1/2"

Percentages of strength of longitudinal joint rivets 89.6 Working pressure of shell by rules 185 LBS. Size of manhole in shell 16" x 12"

Size of compensating ring 35 1/8" x 33 1/2" No. and Description of Furnaces in each boiler 3 DEIGHTON Material STEEL Outside diameter 48 3/8"

Length of plain part top Thickness of plates crown 5/8" Description of longitudinal joint WELD No. of strengthening rings

Working pressure of furnace by the rules 202 LBS. Combustion chamber plates: Material STEEL Thickness: Sides 5/8" Back 5/8" Top 5/8" Bottom 2 1/32"

Pitch of stays to ditto: Sides 8 7/8" x 8 7/8" Back 8 7/8" x 8 1/2" Top 8 1/4" x 8 1/2" If stays are fitted with nuts or riveted heads NUTS Working pressure by rules 184 LBS.

Material of stays STEEL Area at smallest part 2.03 sq in Area supported by each stay 78.76 sq in Working pressure by rules 230 LBS. End plates in steam space:

Material STEEL Thickness 1 7/16" Pitch of stays 23 1/2" x 22 1/2" How are stays secured D.N. Working pressure by rules 184 LBS. Material of stays STEEL

Area at smallest part 9.82 sq in Area supported by each stay 528.75 sq in Working pressure by rules 208.9 LBS. Material of Front plates at bottom STEEL

Thickness 1" Material of Lower back plate STEEL Thickness 7/8" Greatest pitch of stays 13 3/4" x 8 5/8" Working pressure of plate by rules 238 LBS.

Diameter of tubes 2 1/2" Pitch of tubes 3 3/4" x 3 1/16" Material of tube plates STEEL Thickness: Front 1" Back 1 1/16" Mean pitch of stays 9 3/32"

Pitch across wide water spaces 13 3/4" Working pressures by rules 205 LBS. Girders to Chamber tops: Material STEEL Depth and

Thickness of girder at centre 8 7/8" x 1 5/8" Length as per rule 35'-5" Distance apart 8 1/4" Number and pitch of stays in each 3 - 8 3/8"

Working pressure by rules 191 LBS. 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 NONE 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

W491-0057

IS A DONKEY BOILER FITTED?

NONE

If so, is a report now forwarded? ☒

SPARE GEAR. State the articles supplied:— SCREW SHAFT - 2 C.G. PROPELLER BLADES - PAIR BOTTOM END BRASSES - 2 TOP & 2 BOTTOM END BOLTS - 2 MAIN BEARING BOLTS - SET OF COUPLING BOLTS - 12 STUDS & NUTS FOR JUNK RINGS - SLIDE VALVE SPINDLE - ECCENTRIC STRAP COMPLETE - 2 ESCAPE VALVE SPRINGS - 50 CONDENSER TUBES & 100 FERRULES - AIR PUMP ROD - SET AIR PUMP VALVES - SET VALVES & SEATS FOR ONE HOTWELL AND ONE BILGE PUMP ON MAIN ENGINE - 1 STAY & 20 PLAIN BOILER TUBES - VALVE LIDS FOR MAIN & AUX. FEED CHECK VALVES - 2 SAFETY VALVE SPRINGS FOR BOILERS - SET VALVES & SEATS FOR WEIR'S FEED PUMP ALSO SET OF BUCKET RINGS - 4 VALVES & SEATS FOR EACH OF AUXILIARY FEED, GENERAL SERVICE, AND BALLAST PUMPS ASSORTED IRON, BOLTS & NUTS.

The foregoing is a correct description,

for

Palmer Shipbuilding & Iron Co., Ltd.

Manufacturer.

General Manager, Engine Works. 1922  
Dates of Survey while building { During progress of work in shops - 1922 Aug 15, 31, Sep 12, Nov 15, 16, 30, Dec 2, 12, 14, 16, 19, Jan 5, 20, 24, Feb 3, 6, 8, 10, 21, 23, Mar 1, 3, 13, 16, 20, 21, 22, 27, 28, 29, Apr 4, 5, 6, 21, 28, 29, 30, May 1, 4, 10, 11, 12, 26, 31, June 2, 6, July 3, 10, 13, 19, 27, Aug 1, 3, 11, 15, 22, Sep 1, 11, 17, 22, 25, 28, Oct 2, 4, 6, 9, 13, 16, 15, 20, 26, 27, 28, 29, 30, Nov 1, 3, 6, 9, 13, 15, 17, 22, 24, Dec 6.  
During erection on board vessel - 89.  
Total No. of visits 89.

Is the approved plan of main boiler forwarded herewith YES

Is the approved plan of donkey boiler forwarded herewith YES

Dates of Examination of principal parts—Cylinders 15.8.22 Slides 21.3.22 Covers 10.5.22 Pistons 6.6.22 Rods 10.5.22  
Connecting rods 10.5.22 Crank shaft 18.7.22 Thrust shaft 1.9.22 Tunnel shafts 28.9.22 Screw shaft 1.9.22 Propeller 2.4.22  
Stern tube 27.4.22 Steam pipes tested 17.11.22 Engine and boiler seatings 15.8.22 Engines holding down bolts 9.10.22  
Completion of pumping arrangements 24.11.22 Boilers fixed 9.11.22 Engines tried under steam 22.11.22  
Completion of fitting sea connections 19.9.22 Stern tube 15.8.22 Screw shaft and propeller 19.9.22  
Main boiler safety valves adjusted 22.11.22 Thickness of adjusting washers FORW. BLR. P 1 3/4 S 3/4 PORT BLR. P 1 3/4 S 3/4 STAR BLR. P 3/8 S 3/8  
Material of Crank shafts S.M. STEEL Identification Mark on Do. 6165N Material of Thrust shaft S.M. STEEL Identification Mark on Do. 6165N  
Material of Tunnel shafts Identification Marks on Do. Material of Screw shafts S.M. STEEL Identification Marks on Do. 6165N  
Material of Steam Pipes SOLID DRAWN STEEL Test pressure 600 LBS Q.  
Is an installation fitted for burning oil fuel YES Is the flash point of the oil to be used over 150°F. YES  
Have the requirements of Section 49 of the Rules been complied with. YES  
Is this machinery duplicate of a previous case YES If so, state name of vessel SAN MACEDONIO No 927.

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

This machinery of this vessel has been constructed under Special Survey. The workmanship and materials are sound and good. The Engines and Boilers have been efficiently installed. The Boilers' safety valves were adjusted under steam. The main and Auxiliary Engines have been tried out under steam with satisfactory results. In my opinion the machinery of this vessel is eligible for notation in the Society's Register. Book - L.M.C. 12.22 C.L. Boilers' Pressure 180 LBS Q. F.D. FITTED FOR OIL FUEL 12.22 F.P. ABOVE 150°F.

It is submitted that this vessel is eligible for THE RECORD. + L.M.C. 12.22. F.D. C.L.

"Fitted for Oil Fuel" 12.22 F.P. above 150°F.

The amount of Entry Fee ... £ 6 : — :  
Special ... £ 102 : 0 :  
Donkey Boiler Fee ... £ : :  
Travelling Expenses (if any) £ : :

When applied for.

14/12/22

When received.

5.1.23

Committee's Minute TUE 19 DEC 1922

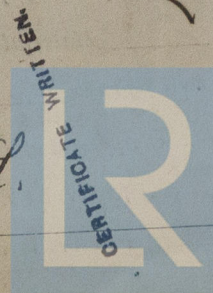
Assigned

+ L.M.C. 12.22 F.D. C.L.

Fitted for oil fuel 12.22  
F.P. above 150°F.

R. H. Ames

Engine Surveyor to Lloyd's Register of Shipping



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