

# REPORT ON MACHINERY

No. 31725

Received at London Office  
MAR 31 1920

18/3 to 20 Port of Hull

Date, First Survey 16/7/18 Last Survey 17-3-1920

When handed in at Local Office

in Survey held at Hull  
on the ST TUG "ST. CLAUDE"

By whom built Leimstone & Cooper  
By whom made Taylor & Co. Ltd. A227 when made 1919.  
By whom made do when made 1919.

Registered Horse Power 208  
Is Refrigerating Machinery fitted for cargo purposes No  
Is Electric Light fitted Yes

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

No. of Cylinders 18 1/2 x 28 1/2 x 48 1/2 Length of Stroke 28 Revs. per minute 128 Dia. of Screw shaft 9 1/2

Material of screw shaft Steel  
the screw shaft fitted with a continuous liner the whole length of the stern tube Is the after end of the liner made water tight

the propeller boss 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

axles are fitted, is the shaft lapped or protected between the liners No liner Length of stern bush 42

No. of Tunnel shaft 8.52 as per rule 8.95 Dia. of Crank shaft journals 9 Dia. of Crank pin 9 Size of Crank webs 18 x 18 Dia. of thrust shaft under

bars 9 Dia. of screw 10-7 Pitch of Screw 12-0 No. of Blades 4 State whether moveable No Total surface 34 sq ft

No. of Feed pumps 2 Diameter of ditto 3 1/2 Stroke 13 1/2 Can one be overhauled while the other is at work Yes

No. of Bilge pumps 2 Diameter of ditto 3 1/2 Stroke 13 1/2 Can one be overhauled while the other is at work Yes

No. of Donkey Engines 2 Sizes of Pumps one pair West 7 1/2 x 5 1/2 and size of Suctions connected to both Bilge and Donkey pumps

Engine Room One 2 1/2 in engine, 12 1/2 in boiler. In Holds, &c. one 3 in fore & after peaks & one 2 in

each compartment all suction connected to ejector

No. of Bilge Injections one size 6 Connected to condenser, or to circulating pump or pump a separate Donkey Suction fitted in Engine room & size 2 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 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 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

How are they protected One exhaust

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 Is it fitted with a watertight door worked from

MANUFACTURERS, &c.—(Letter for record S) Manufacturers of Steel Plates Pat. Talbot & Co. & Palmer 2.S.B.

Total Heating Surface of Boilers 3384 sq ft Is Forced Draft fitted Yes No. and Description of Boilers Two single ended

Working Pressure 180 lbs Test by hydraulic pressure to 360 lbs Date of test Feb. 8-5-19 No. of Certificate 3356

Can each boiler be worked separately Yes Area of fire grate in each boiler 43.5 sq ft No. and Description of Safety Valves to

each boiler Two spring loaded Area of each valve 7.06 sq ft Pressure to which they are adjusted 185 lbs Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork 12 (lagged) Internal dia. of boilers 150 Length 11-0 Material of shell plates Steel

Thickness 1 3/8 Range of tensile strength 28 to 32 tons Are the shell plates welded or flanged No Descrip. of riveting: cir. seams double

Diagonal seams TRIBS Diameter of rivet holes in long. seams 1 1/8 Pitch of rivets 7 1/2 Lap of plates or width of butt straps 16

Percentages of strength of longitudinal joint rivets 88.4 Working pressure of shell by rules 182 lbs Size of manhole in shell 20 x 16

Plate 85.4 No. and Description of Furnaces in each boiler Three Morrison Material Steel Outside diameter 39 1/2

Length of plain part top 3 1/2 Thickness of plates crown 3 1/2 Description of longitudinal joint welded No. of strengthening rings

Working pressure of furnace by the rules 192 Combustion chamber plates: Material Steel Thickness: Sides 3/2 Back 3/2 Top 3/2 Bottom 3/2

Each of stays to ditto: Sides 9 x 8 Back 9 1/2 x 8 1/2 Top 8 1/2 x 8 1/2 stays are fitted with nuts or riveted heads Nuts Working pressure by rules 200 lbs

Material of stays Steel Area at smallest part 1.76 sq ft Area supported by each stay 74 sq ft Working pressure by rules 190 lbs End plates in steam space:

Material Steel Thickness 1 1/8 Pitch of stays 18 x 18 How are stays secured JN & W. Working pressure by rules 185 lbs Material of stays Steel

Area at smallest part 6.22 Area supported by each stay 324 Working pressure by rules 199 Material of Front plates at bottom Steel

Thickness 1 1/8 Material of Lower back plate Steel Thickness 3/2 Greatest pitch of stays 14 x 8 1/2 Working pressure of plate by rules 188

Diameter of tubes 2 1/2 Pitch of tubes 3 1/2 x 3 5/8 Material of tube plates Steel Thickness: Front 1 1/8 Back 3/2 Mean pitch of stays 8 1/2

Each across wide water spaces 13 1/2 Working pressures by rules 185 lbs Girders to Chamber tops: Material Steel Depth and

Thickness of girder at centre 7 1/2 x 1 3/8 Length as per rule 30 1/2 Distance apart 8 1/2 Number and pitch of stays in each Two, 8 1/2

Working pressure by rules 184 Steam dome: description of joint to shell Nil % of strength of joint

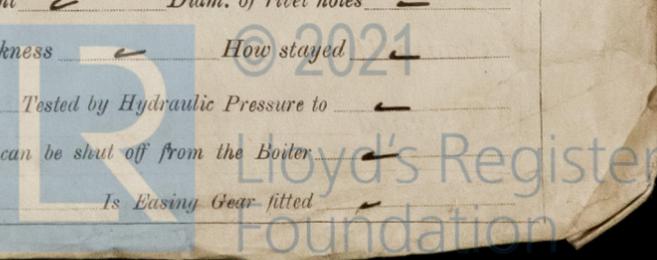
6.9 meter Thickness of shell plates Material Description of longitudinal joint Diam. of rivet holes

Each of rivets Working pressure of shell by rules Crown plates Thickness How stayed

4 SUPERHEATER. Type Date of Approval of Plan Tested by Hydraulic Pressure to

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



IS A DONKEY BOILER FITTED? *No*

If so, is a report now forwarded? *-*

SPARE GEAR. State the articles supplied:— 2 connecting rods top end, 2 cranks bottom end & 2 main bearing bolts & nuts, 1 pair eccentric straps bolts & nuts, 1 coupling bolts & nuts, 2 bilge & 2 feed pump valves, 2 cutts omitted bolts & nuts, 24 bars (omitted) iron & steel, 2 safety valve springs, 1 air pump rod, 1 set springs & rings for each piston, 4 escape valve springs, 24 plain & 4 strap tubes, 1 set thrust collar complete eccentric rod & strap, 1 set main bearing brasses &c.

The foregoing is a correct description,

**FOR EARLE'S BUILDING & ENGINEERING CO. LIMITED**

*W. H. Huckle*

Manufacturer.

ASSISTANT MANAGER  
Dates of Survey while building: During progress of work in shops -- 1918 Jul 16-17-24-27-29. Sep 9-12-14-17. Oct 7-10-15-17-22-24-28. Nov 1-4-7-14-22-25-27. Dec 2-6-25  
During erection on board vessel -- 10-19-23-31-1919 Jan 4-29. Feb 3-27. Mar 13-19-26. Apr 1-12-25. May 1-5-7-8-14-15-19-21. Jun 2-5-11-14. Jul 30. Aug 14. Sep 8-19. Oct 27. Dec 9-15-17-22-30-1920 Jan 4-8-21. Feb 2-17-26. Mar 1-3-11-16-18-16-17  
Total No. of visits *73*  
Is the approved plan of main boiler forwarded herewith *Yes*

Dates of Examination of principal parts: Cylinders 15/5/19 Slides 2/6/19 Covers 19/5/19 Pistons 17/6/19 Rods 2/8/19  
Connecting rods 2/6/19 Crank shaft 2/6/19 Thrust shaft 2/6/19 Tunnel shafts 2/6/19 Screw shaft 30/12/19 Propeller 19/9/19  
Stern tube 19/9/19 Steam pipes tested 19/9/19 Engine and boiler seatings 2/2/20 Engines holding down bolts 2/2/20  
Completion of pumping arrangements 15/3/20 Boilers fixed 28/2/20 Engines tried under steam 15/3/20  
Completion of fitting sea connections 21/1/20 Stern tube 21/1/20 Screw shaft and propeller 21/1/20  
Main boiler safety valves adjusted 26/2/20 Thickness of adjusting washers *5 1/8" 7 1/8" 5 3/8" 9 1/8"*  
Material of Crank shaft *Steel* Identification Mark on Do. *891* Material of Thrust shaft *Steel* Identification Mark on Do. *2342*  
Material of Tunnel shafts *Steel* Identification Marks on Do. *2340* Material of Screw shafts *Steel* Identification Marks on Do. *2417*  
Material of Steam Pipes *L.W. Steel & Copper* Test pressure *540 lbs & 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 *Perme type*

General Remarks (State quality of workmanship, opinions as to class, &c.) *The engines & boilers of this vessel have been built under special survey, the materials & workmanship are good. On completion the machinery was tried under full working conditions with good results. The machinery of this vessel is in a good & efficient condition & eligible in my opinion to be classed with second L.M.C.-3-20, marked in red in the Society's Register Book.*

It is submitted that this vessel is eligible for THE RECORD + L.M.C. 3-20 F.D.

*J.W.D.* 31/3/20  
*A.P.S.*

The amount of Entry Fee ... £ : : When applied for, *7/4/20*  
Special ... £ *64 = 16 = 0*  
Donkey Boiler Fee ... £ : :  
Travelling Expenses (if any) £ : :  
When received, *10/5/20*

*W. H. Huckle*  
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute WED. APR. 7 1920  
Assigned *+ L.M.C. 3-20 F.D.*

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

