

Rpt. 4.

## REPORT ON MACHINERY.

No. 41721

Date of writing Report Feb 10<sup>th</sup> 1922 When handed in at Local Office Feb 11<sup>th</sup> 19 Port of GLASGOW. Received at London Office WFO. 15 FEB. 1922No. in Survey held at Glasgow Date, First Survey 4-1-1922 Last Survey 4-2-1922  
Reg. Book. 4536 on the Machinery of S.S. GARTLAND. (Number of Visits 3)Master Built at Vegesack By whom built Bremer Vulkan Tons { Gross 1835  
Net 1114

Engines made at Vegesack By whom made Bremer Vulkan When built 1906

Boilers made at Not stated By whom made Not stated when made 1906

Registered Horse Power Owners Gart Line Ltd (Whimster &amp; Co) Port belonging to Glasgow

Nom. Horse Power as per Section 28 239 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

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

Dia. of Cylinders 20 $\frac{1}{16}$ , 32 $\frac{1}{8}$ , 53 $\frac{1}{4}$  Length of Stroke 39 $\frac{1}{8}$  Revs. per minute Dia. of Screw shaft as per rule 11 $\frac{3}{8}$  Material of screw shaft as fitted 11 $\frac{1}{8}$ 

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

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

screws are fitted, is the shaft lapped or protected between the liners — Length of stern bush 4' 3"

Dia. of Tunnel shaft as per rule 10 $\frac{1}{16}$  Dia. of Crank shaft journals as per rule 11 $\frac{1}{4}$  Dia. of Crank pin 11 $\frac{1}{8}$  Size of Crank webs 22 $\frac{1}{16}$  x 4 $\frac{15}{32}$  Dia. of thrust shaft underbars 11 $\frac{3}{16}$  Dia. of screw 14 $\frac{1}{4}$  Pitch of Screw 16' 4" No. of Blades 4 State whether moveable No Total surface 59 sq ftNo. of Feed pumps 2 Diameter of ditto 2 $\frac{1}{8}$  Stroke 19 $\frac{1}{2}$  Can one be overhauled while the other is at work YesNo. of Bilge pumps 2 Diameter of ditto 3 $\frac{1}{8}$  Stroke 19 $\frac{1}{2}$  Can one be overhauled while the other is at work YesNo. of Donkey Engines 3 Sizes of Pumps Ballast 6 x 4 $\frac{1}{2}$  x 5 $\frac{1}{2}$  No. and size of Suctions connected to both Bilge and Donkey pumpsEngine Room 3 @ 2 $\frac{3}{4}$  Don Feed 4 $\frac{3}{4}$  x 4 $\frac{1}{2}$  x 10" In Holds, &c. No 1 hold 2 @ 2 $\frac{1}{4}$  No 2 Hold 2 @ 2 $\frac{1}{4}$ No 3 Hold 2 @ 2 $\frac{1}{4}$  No 4 Hold 2 @ 2 $\frac{1}{4}$  Tunnel top 1 @ 2 $\frac{1}{2}$  Tunnel Well 1 @ 2 $\frac{1}{4}$ No. of Bilge Injections 1 sizes 4 $\frac{5}{8}$  Connected to condenser, or to circulating pump pump Is a separate Donkey Suction fitted in Engine room & size Yes 4"

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

all connections with the sea direct on the skin of the ship Yes Are they Valves or Cocks Both

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 Awash

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

all pipes are carried through the bunkers None How are they protected

all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times Yes

the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges Yes

the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from Top grating of eng. room.

HEATERS, &amp;c.—(Letter for record 3323 #) Manufacturers of Steel

Total Heating Surface of Boilers 3322 sq ft Is Forced Draft fitted Yes No. and Description of Boilers Two S.E. Marine

Working Pressure 200 lbs Tested by hydraulic pressure to — Date of test — No. of Certificate —

each boiler be worked separately Yes Area of fire grate in each boiler 39.4 sq ft No. and Description of Safety Valves to

boiler 2 Spring loaded Area of each valve Pressure to which they are adjusted 200 lbs Are they fitted with easing gear Yes

least distance between boilers or uptakes and bunkers or woodwork 2' 0" Mean dia. of boilers 11' 10" Length 12 1 $\frac{3}{8}$  Material of shell plates SThickness 1 $\frac{1}{16}$  Range of tensile strength — Are the shell plates welded or flanged No Descrip. of riveting: cir. seams DR Lapseams Quad R. DBS Diameter of rivet holes in long. seams 1 $\frac{5}{16}$  Pitch of rivets 18 $\frac{1}{16}$  Lap of plates or width of butt straps 2' 3 $\frac{1}{2}$ "

centages of strength of longitudinal joint rivets 103 } 85% aligned Working pressure of shell by rules 224 lbs Size of manhole in shell 16" x 12"

plate 92.4 } scaled strap No. and Description of Furnaces in each boiler 2 Morrison Material S Outside diameter 3' 8 $\frac{1}{8}$ "of compensating ring 34" x 30" x 1 $\frac{1}{4}$ " No. and Description of Furnaces in each boiler 2 Morrison Material S Outside diameter 3' 8 $\frac{1}{8}$ "

length of plain part top — Thickness of plates crown 3 Description of longitudinal joint Weld No. of strengthening rings None

bottom — Thickness of plates bottom 4 Description of longitudinal joint Weld No. of strengthening rings None

Working pressure of furnace by the rules 280 Combustion chamber plates: Material S Thickness: Sides 23 Back 11 Top 23 Bottom 64

No. of stays to ditto: Sides 8 $\frac{1}{4}$  x 7 $\frac{1}{8}$  Back 4 $\frac{1}{6}$  x 6 $\frac{1}{8}$  Top 8 $\frac{1}{4}$  x 7 $\frac{1}{8}$  If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 245

Material of stays S Area at smallest part 1' 35" Area supported by each stay 30' 3" Working pressure by rules 215 End plates in steam space:

Material S Thickness 1 $\frac{1}{32}$  Pitch of stays 14 $\frac{1}{2}$  x 14 $\frac{1}{4}$  How are stays secured rivetted washers Working pressure by rules 228 Material of stays S

Area at smallest part 6' 48" Area supported by each stay 25' 5" Working pressure by rules 239 Material of Front plates at bottom S

Thickness 1 $\frac{3}{32}$  Material of Lower back plate S Thickness 1 $\frac{1}{32}$  Greatest pitch of stays 13 $\frac{1}{8}$  x 7 $\frac{1}{16}$  Working pressure of plate by rules 240Pitch of tubes 3 $\frac{1}{8}$  x 3 $\frac{1}{8}$  Material of tube plates S Thickness: Front 1 $\frac{1}{32}$  Back 1 $\frac{1}{16}$  Mean pitch of stays 4 $\frac{1}{4}$  x 11 $\frac{1}{8}$ across wide water spaces 13 $\frac{5}{8}$  Working pressures by rules 263 Girders to Chamber tops: Material S Depth andwidth of girder at centre 9 $\frac{1}{4}$  x 1 $\frac{1}{2}$  Length as per rule 35 $\frac{1}{2}$  Distance apart 4 $\frac{1}{4}$  Number and pitch of stays in each 3 @ 8 $\frac{1}{4}$ 

Working pressure by rules 221 Steam dome: description of joint to shell None % of strength of joint —

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

Working pressure of shell by rules — Crown plates — Thickness — How stayed —

SUPERHEATER. Type None 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

Pressure to which each is adjusted — Is Easing Gear fitted —

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SHORT BR  
FORECAST  
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Stringer  
Second D  
Stringer  
FRAMES  
REVERSE  
Lower M  
Downpit  
Rigging,  
Sails.

IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:-

The foregoing is a correct description,

Manufacturer.

Dates of Survey  
During progress of work in shops - -  
During erection on board vessel - -  
Total No. of visits - 13

Is the approved plan of main boiler forwarded herewith

Dates of Examination of principal parts—Cylinders	Slates	Covers	Pistons	Rods
Connecting rods	Crank shaft	Thrust shaft	Tunnel shafts	Screw shaft
Stern tube	Steam pipes tested	Engine and boiler seatings	Engines holding down bolts	Propeller
Completion of pumping arrangements	Boilers fixed	Engines tried under steam		
Completion of fitting sea connections	Stern tube	Screw shaft and propeller		
Main boiler safety valves adjusted	Thickness of adjusting washers			
Material of Crank shaft	Identification Mark on Do.	Material of Thrust shaft	Identification Mark on Do.	
Material of Tunnel shafts	Identification Marks on Do.	Material of Screw shafts	Identification Marks on Do.	
Material of Steam Pipes	Test pressure			

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

If so, state name of vessel

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

This vessel is an ex-German vessel now submitted for Classification.

Engines and boilers have been opened out and examined

Repairs have been carried out and on the completion of these, the safety valves were adjusted under steam to 200 lbs.

Copy of boiler plan is enclosed herewith. Scantlings checked and found to agree.

The machinery of this vessel is eligible in our opinion to be classed LMC 2-2 and record of TS 8-21

The amount of Entry Fee

Special ... £ 25 -

Donkey Boiler Fee ... £

Travelling Expenses (if any) £

When applied for.

When received.

GLASGOW 14 FEB 1922

Committee's Minute

Assigned LMC 2, 22

MACHINERY CERT  
WRITTEN 28/3/22  
dated 15/2/22

Rpt. 9a.

Port of Glasgow

Continuation of Report No. 41721 dated 10th Feb 1922 on the

S.S. "GARTLAND"

Repairs

HP Eng. Cylinder bored out. New set of Allen & Simmons rings fitted, piston reduced to suit new hood. Piston rod renewed. (Kert. attached) Neck bush renewed. New U.S. metallic gland packing fitted. Piston valve chamber bored out. New piston valve (Allen & Simmons) fitted. Valve spindle skimmed up, neck and gland bushes renewed. Crosshead pins skimmed up, bearings remetalled.

MP Eng. Cylinder bored out. New set of Allen & Simmons rings fitted, piston reduced to suit. Piston rod skimmed up, neck bush renewed and new U.S. metallic gland packing fitted. Valve chamber liner and piston valve renewed. Valve spindle skimmed up, neck & gland bushes renewed. Crosshead pins skimmed up and bearings for same remetalled.

LP Eng. Piston flanges faced up. New Ramsbottom rings fitted. Piston rod skimmed up, neck bush skimmed out and new U.S. metallic gland packing fitted. Valve spindle skimmed up, neck and gland bushes renewed. Crosshead pins skimmed up and bearings remetalled. Bottom end brasses remetalled & Ah<sup>d</sup> guide shoe remetalled. Crank Shaft Shaft lifted, bottom halves of main bearings remetalled. Shaft rebbed and alignment tried.

Condenser. Examined and tested

Bilge pump rams skimmed up. Neck & gland bushes renewed. Circulating pump door renewed. Main steam pipes tested to 420 lbs.

Ballast Pump. Piston rings renewed.

Donkey Feed Pump. Piston and plunger rods renewed (M Metal)

Dynamo Eng. Piston rings and piston valve renewed.

Windlass Piston rods, valve spindles & one piston ring renewed. Independent suction fitted to Eng Room bilge. Rose boxes fitted to No 2 hold suctions, bilge injection and Centre Eng Room suction

PORT BOILER. Blow down valve and spindle renewed. Donkey feed valve renewed. Main stop valve seat pinned. 1 Corn. Cham stay and 1 nut renewed.

STAR<sup>d</sup> BOILER. Blow down valve and feed check valve renewed. Donkey feed check valve spindle renewed. 3 Corn. Cham stays and 10 nuts renewed.

Steering Eng. Worm wheel of this engine considerably worn. It was arranged to have a new wheel fitted on the vessel's return to Glasgow in about 6 weeks time

Sea Cocks. Opened and examined.

Propeller Shaft 7/8 down. Examined on Aug 18<sup>th</sup> 1921. Continuous Liner

This shaft was examined on above date at Owners request with a view of possible future classification and found in good order.

D.C.B. J.D. Boyle

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Lloyd's Register

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