

REPORT ON MACHINERY.

No. 6109

Port of Falmouth

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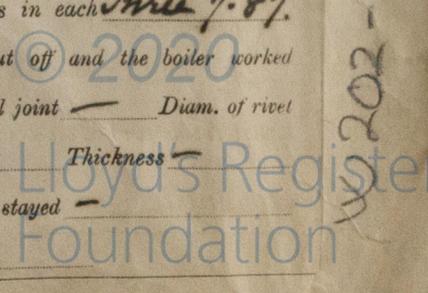
No. in Survey held at Falmouth Date, first Survey 22nd May Last Survey 14th June 1922
 Reg. Book. 13959 on the SS "Nigaristan" ex "Diyatalawa" (Number of Visits) 21
 Master Built at Vegesack By whom built Bremer Vulkan Tons { Gross 5993
 Engines made at Vegesack By whom made Bremer Vulkan when made 1912 Net 3752
 Boilers made at Vegesack By whom made Bremer Vulkan when made 1912
 Registered Horse Power Owners Frank C. Strick and Co Ltd Port belonging to London
 Nom. Horse Power as per Section 28 521 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted No

ENGINES, &c.—Description of Engines Inverted triple expansion surf cond No. of Cylinders Three No. of Cranks Three
 Dia. of Cylinders 28³/₄, 46⁷/₈, 75⁵/₈ Length of Stroke 53¹⁵/₁₆ Revs. per minute 65 Dia. of Screw shaft as per rule 16.65 Material of cast steel
 Is the screw shaft fitted with a continuous liner the whole length of the stern tube No liner Is the after end of the liner made water tight
 in 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
 liners are fitted, is the shaft lapped or protected between the liners ✓ Length of stern bush 6-1¹/₂
 Dia. of Tunnel shaft as per rule 14.69 Dia. of Crank shaft journals as per rule 15.42 Dia. of Crank pin 15⁹/₁₆ Size of Crank webs 102-2-6¹/₂ Dia. of thrust shaft under
 collars 15⁹/₁₆ Dia. of screw 19-4⁷/₈ Pitch of Screw 19-4⁷/₈ No. of Blades 4 State whether moveable yes Total surface 104.4¹/₂
 No. of Feed pumps Two Diameter of ditto 3³/₄ Stroke 27¹/₂ Can one be overhauled while the other is at work yes
 No. of Bilge pumps Two Diameter of ditto 4¹/₂ Stroke 27¹/₂ Can one be overhauled while the other is at work yes
 No. of Donkey Engines Four Sizes of Pumps 18 Ballast Pump 13³/₄ x 15³/₄ x 16" No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room Three in E.R. 3¹/₂ dia. Two in SHS 2¹/₂ dia. Two in Dry Tanks 2¹/₂ dia. In Holds, &c. Two 3¹/₂ dia in each hold
One in Tunnel 3¹/₂ dia. One in Tunnel Well 3¹/₂ dia
 No. of Bilge Injections one sizes 7³/₄ Connected to condenser, or to circulating pump but pumps a separate Donkey Suction fitted in Engine room & size yes, 3¹/₂ dia
 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 both
 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 sections How are they protected carried under lumber boards
 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
 Dates of examination of completion of fitting of Sea Connections 6/6/22 of Stern Tube 7/6/22 Screw shaft and Propeller 7.14/6/22
 Is the Screw Shaft Tunnel watertight yes Is it fitted with a watertight door yes worked from E.R. top platform

OILERS, &c.—(Letter for record ✓) Manufacturers of Steel

Total Heating Surface of Boilers 6943¹/₂ Is Forced Draft fitted yes No. and Description of Boilers Three single ended
 Working Pressure 192 lbs per sq Tested by hydraulic pressure to — Date of test — No. of Certificate —
 Can each boiler be worked separately yes Area of fire grate in each boiler 49.5¹/₂ No. and Description of Safety Valves to
 each boiler two spring loaded Area of each valve 12.56 Pressure to which they are adjusted 195 lbs per sq Are they fitted with easing gear yes
 Smallest distance between boilers or uptakes and bunkers or woodwork 2-0 Mean dia. of boilers 14-6 Length 12-0 Material of shell plates Steel
 Thickness 1.3 Range of tensile strength 27.9-33 tons Are the shell plates welded or flanged no Descrip. of riveting: cir. seams ITT. Lap.
 long. seams T.B.S. T.R. Diameter of rivet holes in long. seams 1¹/₂ Pitch of rivets 9.33 Lap of plates on width of butt straps 2 1¹/₄
 Per centages of strength of longitudinal joint rivets 84.7 Working pressure of shell by rules 198 lbs Size of manhole in shell 11.81 x 15.74
 Size of compensating ring 37.79 x 41.73 x 13 No. and Description of Furnaces in each boiler 3 Morrison Material Steel Outside diameter 43.3
 Length of plain part top — bottom — Thickness of plates crown 1.61 Description of longitudinal joint welded No. of strengthening rings —
 Working pressure of furnace by the rules 198 lbs Combustion chamber plates: Material steel Thickness: Sides .65 Back .67 Top .64 Bottom .91
 Pitch of stays to ditto: Sides 7.87 x 6.89 Back 8.26 x 7.48 Top 7.87 x 7.46 If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 195 lbs
 Material of stays steel Diameter at smallest part 1.46 Area supported by each stay 61.8 Working pressure approved 192 lbs End plates in steam space:
 Material steel Thickness 1.04 Pitch of stays 14.96 x 13.70 How are stays secured DR. 9.75 lbs Working pressure by rules 193 lbs Material of stays Steel
 Diameter at smallest part 3.03 Area supported by each stay 206 Working pressure by rules 250 lbs Material of Front plates at bottom Steel
 Thickness 1.06 Material of Lower back plate Steel Thickness .94 Greatest pitch of stays 14.3 Working pressure of plate approved 192 lbs
 Diameter of tubes 2.99 Pitch of tubes 4.13 Material of tube plates steel Thickness: Front 1.06 Back .91 Mean pitch of stays 8.26
 Pitch across wide water spaces 13.98 Working pressures approved 192 lbs Girders to Chamber tops: Material Steel Depth and
 thickness of girder at centre 10.24 x 1.8 Length as per rule 34.65 Distance apart 7.48 Number and pitch of stays in each Three 7.87
 Working pressure by rules 209 lbs Superheater or Steam chest; how connected to boiler Schmidt Can the superheater be shut off and the boiler worked
 parately yes Diameter — Length — Thickness of shell plates — Material — Description of longitudinal joint — Diam. of rivet
 holes — Pitch of rivets — Working pressure of shell by rules — Diameter of flue — Material of flue plates — Thickness —
 stiffened with rings — Distance between rings — Working pressure by rules — End plates: Thickness — How stayed —
 Working pressure of end plates — Area of safety valves to superheater 4.43 Are they fitted with easing gear yes

202-0108



Marine type
VERTICAL DONKEY BOILER—
 No. _____ Description _____
 Made at _____ By whom made _____ When made _____ Where fixed _____
 Working pressure tested by hydraulic pressure to _____ Date of test _____ No. of Certificate _____ Fire grate area _____ Description of Safety _____
 Valves _____ No. of Safety Valves _____ Area of each _____ Pressure to which they are adjusted _____ Date of adjustment _____
 If fitted with easing gear _____ If steam from main boilers can enter the donkey boiler _____ Dia. of donkey boiler _____ Length _____
 Material of shell plates _____ Thickness _____ Range of tensile strength _____ Descrip. of riveting long. seams _____
 Dia. of rivet holes _____ Whether punched or drilled _____ Pitch of rivets _____ Lap of plating _____ Per centage of strength of joint _____ Rivets _____ Plates _____
 Working pressure of shell by rules _____ Thickness of shell crown plates _____ Radius of do. _____ No. of stays to do. _____ Dia. of stays _____
 Diameter of furnace Top _____ Bottom _____ Length of furnace _____ Thickness of furnace plates _____ Description of joint _____
 Working pressure of furnace by rules _____ Thickness of furnace crown plates _____ Stayed by _____
 Diameter of uptake _____ Thickness of uptake plates _____ Thickness of water tubes _____ Dates of survey _____

SPARE GEAR. State the articles supplied:—*2 top and bolts & nuts with brasses complete, 2 bottom end bolts and nuts with brasses complete, 2 sets of coupling bolts & nuts, 2 main bearing bolts & nuts, a quantity of assorted nuts bolts & iron of various sizes; 1 set feed & bilge pump valves, 1 propeller blade, 1 tail shaft nut, 1 length of crank shaft, 1 eccentric strap, 1 front & 1 back pump link, 1 air pump valve, 1 air pump rod, 1 fire pump shaft & impeller, 2 nuts & washers feed pump valves, 8 H & P piston rings, 4 P piston rings, 2 L & P piston rings, 4 H & P piston rings, 1 set of cover studs, 10 condenser tubes, and 1/2 4 ferrules, 1/7 boiler tubes, 2 SV springs, 28 superheater coils.*
 The foregoing is a correct description, _____
 Manufacturer _____

Dates of Survey _____
 During progress of work in shops - - _____
 During erection on board vessel - - _____
 building _____
 Total No. of visits _____
 Is the approved plan of main boiler forwarded herewith *Yes*

Dates of Examination of principal parts—Cylinders *24/5/22* Slides *24/5/22* Covers *26/5/22* Pistons *26/5/22* Rods *26/5/22*
 Connecting rods *24/5/22* Crank shaft *24/5/22* Thrust shaft *24/5/22* Tunnel shafts *24/5/22* Screw shaft *7/6/22* Propeller *7/6/22*
 Stern tube *7/6/22* Steam pipes tested *9/6/22* Engine and boiler seatings *24/5/22* Engines holding down bolts *24/6/22*
 Completion of pumping arrangements *14/6/22* Boilers fixed _____ Engines tried under steam *17/6/22*
 Main boiler safety valves adjusted *17/6/22* Thickness of adjusting washers *P.V. 5V 1/2" P.V. 7/8 5V 1/2" P.V. 7/8 5V 1/2" S.H. 3/32" S.H. 7/16" S.H. 1/32"*
 Material of Crank shaft *Steel* Identification Mark on Do. Material of Thrust shaft *Steel* Identification Mark on Do.
 Material of Tunnel shafts *Steel* Identification Marks on Do. Material of Screw shafts *Steel* Identification Marks on Do.
 Material of Steam Pipes *Steel* Test pressure *Five hundred & seventy five pounds per sq*

General Remarks (State quality of workmanship, opinions as to class, &c.) *This vessel has been placed in dry dock, the cylinders, pistons, slide valves and their chests, the air, circulating, feed and bilge pumps, condenser (tested) pipe connections; Crank, thrust, intermediate and propeller shafts; propeller; stern bush; sea valves and cocks and their fastenings to the shell plating; steam steering engine; windlass; all engine room auxiliaries; the main boilers, their safety valves and other mountings examined throughout and found or put in good order. Safety valves adjusted under steam as above. Engines tried and found satisfactory (The screw shaft works in a white metal lined bush, with modified bederwall outside gland and oil lubrication). Hear & tear repairs. Stern bush reinstalled, new spare tail shaft fitted, feed pump ram after bilge pump ram and air pump rod, skinned up in lathe and new neck rings and gland bushes fitted. Engine room auxiliaries overhauled and repaired as required. Windlass cable after shaft renewed and several minor repairs effected. This machinery is now so far as seen in good condition and eligible in my opinion to be classed with record of L.M.C. 6, 22 for a working pressure of 192 lbs per sq in and notation of tail shaft New 6, 22 when the Donkey Boiler has been surveyed (E. 12/6/22).*

The amount of Entry Fee. . . £ *20* : 0 : 0 When applied for, *10/7*
 Special £ : : :
 Donkey Boiler Fee £ : : :
 Travelling Expenses (if any) £ : : :
 When received, *14/7/22*
 The vessel has proceeded to Glasgow and the surveyors there have been advised
 A. T. Graham
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute _____
 Assigned _____
 FRI. JUL. 7 1922
 Lmb. 6. 22
 J.D., C.L. J.S.
 CERTIFICATE WRITTEN

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

