

# REPORT ON MACHINERY.

No. 14237

Received at London Office

22 DEC 1924

Date of writing Report 20.12.1924 When handed in at Local Office 20.12.1924 Port of Grosby  
 No. in Survey held at Grosby Date, First Survey 21-12-1921 Last Survey 17-12-1924  
 Reg. Book 3865 on the S.S. "KALUA" (ex "DACAPO") (Number of Visits 9)  
 Master — Built at Sunderland By whom built J. Crow & Co. Ltd. Tons { Gross 722  
 Engines made at H. S. Harwin Eng. Co. Ltd. By whom made Sunderland when made 1908  
 Boilers made at — By whom made — when made 1908  
 Registered Horse Power 75 Owners Hook P. P. Co. Ltd. Port belonging to Goole  
 (Goole & Hull Steam Towing Co. Ltd.)  
 Nom. Horse Power as per Section 28 91 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted yes

ENGINES, &c.—Description of Engines Triples Expansion Single Screw No. of Cylinders 3 No. of Cranks 3  
 Dia. of Cylinders 14" x 23" x 38" Length of Stroke 27 Revs. per minute 70 Dia. of Screw shaft 7.44 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 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 ✓ Length of stern bush 3'-6"  
 Dia. of Tunnel shaft 7.0 as per rule 7.12 Dia. of Crank shaft journals 7.2 as per rule 7.47 Dia. of Crank pin 7.2 Size of Crank webs 11.5 Dia. of thrust shaft under collars 7.2 Dia. of screw 10'-0" Pitch of Screw 11'-2.2" No. of Blades 4 State whether moveable no Total surface 34 1/2 sq. ft.  
 No. of Feed pumps 2 Diameter of ditto 2 1/4 Stroke 1'-3" Can one be overhauled while the other is at work yes  
 No. of Bilge pumps 2 Diameter of ditto 2 1/4 Stroke 1'-3" Can one be overhauled while the other is at work yes  
 No. of Donkey Engines 2 Sizes of Pumps 1 1/2" x 8" x 6 1/2" duplex No. and size of Suctions connected to both Bilge and Donkey pumps  
 In Engine Room two 2 1/2" dia. api. bell, one 2 1/2" dia. In Holds, &c. two 2 1/2" dia.  
 No. of Bilge Injections 1 sizes 3" Connected to condenser, or to circulating pump yes Is a separate Donkey Suction fitted in Engine room & size 2 1/2" 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 no  
 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 yes Is it fitted with a watertight door yes worked from from deck

BOILERS, &c.—(Letter for record S.) Manufacturers of Steel —  
 Total Heating Surface of Boilers 1546 Is Forced Draft fitted no No. and Description of Boilers one, S.E.  
 Working Pressure 180 lb Tested by hydraulic pressure to — Date of test — No. of Certificate —  
 Can each boiler be worked separately ✓ Area of fire grate in each boiler 64 No. and Description of Safety Valves to each boiler 2, spring loaded Area of each valve 3.97 Pressure to which they are adjusted not adjusted Are they fitted with easing gear yes  
 Smallest distance between boilers or uptakes and bunkers or woodwork 1'-8" Mean dia. of boilers 12'-8" Length 10'-3" Material of shell plates S  
 Thickness 1" Range of tensile strength 28.75 T min Are the shell plates welded or flanged ✓ Descrip. of riveting: cir. seams DR  
 long. seams TR Diameter of rivet holes in long. seams 1 1/8" Pitch of rivets 8 9/16" Lap of plates or width of butt straps 9 1/4"  
 Per centages of strength of longitudinal joint rivets 86.7 Working pressure of shell by rules 180 Size of manhole in shell 16" x 12"  
 Size of compensating ring ✓ No. and Description of Furnaces in each boiler 2, corrugated Material S Outside diameter 5'-9 3/8"  
 Length of plain part top — bottom — Thickness of plates crown 1 1/2" bottom 3/2" Description of longitudinal joint welded No. of strengthening rings ✓  
 Working pressure of furnace by the rules 186 Combustion chamber plates: Material S Thickness: Sides 3/4" Back 3/4" Top 3/4" Bottom 13/16"  
 Pitch of stays to ditto: Sides 8 5/8" Back 10 2 1/2" x 12 1/2" Top 8 5/8" x 12 1/2" Are stays fitted with nuts or riveted heads yes Working pressure by rules 200  
 Material of stays S Area at smallest part 2.76 Area supported by each stay 117 Working pressure by rules 182 End plates in steam space:  
 Material S Thickness 1 1/2" Pitch of stays 1'-10 3/4" How are stays secured double nut Working pressure by rules 203 Material of stays S  
 Area at smallest part 8.29 Area supported by each stay 395 Working pressure by rules 203 Material of Front plates at bottom S  
 Thickness 1 1/2" Material of Lower back plate S Thickness 1 1/2" Greatest pitch of stays 10 1/2" x 11 1/2" Working pressure of plate by rules 261  
 Diameter of tubes 3 1/4" Pitch of tubes 4 1/2" x 4 1/2" Material of tube plates S Thickness: Front 13/16" Back 13/16" Mean pitch of stays 9.0"  
 Pitch across wide water spaces 14 1/2" Working pressures by rules 190 Girders to Chamber tops: Material S Depth and thickness of girder at centre 8 3/4" x 7/8" Length as per rule 30.375 Distance apart 8'-6 1/2" Number and pitch of stays in each 2 - 8 5/8"  
 Working pressure by rules 180 Steam dome: description of joint to shell — % 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 —

IS A DONKEY BOILER FITTED?

yes ✓

If so, is a report now forwarded?

yes

SPARE GEAR. State the articles supplied:— 2 connecting rod top end bolts & nuts, 2 bottom end ditto. 2 main bearing bolts. 1 set coupling bolts. 1 set feed & bilge pump valves. 1 set piston springs. Assorted bolts, nuts & washers of various sizes.

The foregoing is a correct description,

Manufacturer.

Dates of Survey while building { During progress of work in shops - - } { During erection on board vessel - - - } Total No. of visits

✓  
✓  
✓

Is the approved plan of main boiler forwarded herewith

yes ✓

Dates of Examination of principal parts—Cylinders Slides Covers Pistons Rods

Connecting rods Crank shaft Thrust shaft Tunnel shafts Screw shaft Propeller

Stern tube Steam pipe tested 9.12.24 Engine and boiler seatings Engines holding down bolts

Completion of pumping arrangements 360 lb. test. Boilers fixed Engines tried under steam 17.12.24

Completion of fitting sea connections Stern tube Screw shaft and propeller

Main boiler safety valves adjusted not adjusted Thickness of adjusting washers ✓

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 copper, solid drawn ✓ Test pressure 360 lb ✓

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 If so, state name of vessel

General Remarks (State quality of workmanship, opinions as to class, &c.) The engines & boilers of this vessel have now been opened out, examined and materials and workmanship found satisfactory. This vessel is therefore eligible in my opinion to have notation of L.M.C. with date 12.24 when the safety valves have been adjusted under steam. Engines & boilers built 1908.

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

The amount of Entry Fee ... £	:	:	When applied for,
Special ... £	:	:	✓ 19
Donkey Boiler Fee ... £	:	:	When received,
Travelling Expenses (if any) £	:	:	✓ 19

*W. G. M. ...*  
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUES. 23 DEC 1924

TUES. 24 FEB 1925

Assigned See other report

