

Rpt. 4
COPY

REPORT ON MACHINERY.

COPY
No. 527
Original forwarded to
Wokingham, 9/7/43.

Date of writing Report 5 - 7 1943 When handed in at Local Office 19 Port of SHEFFIELD

No. in Survey held at SHEFFIELD Date, First Survey 2nd May, 1941 Last Survey 25th June, 1943
Reg. Book. "EMPIRE MOMBASA" (Number of Visits 65)

on the single screw Standard Vessel Type "Y2" and "PF" Engine A.154 M.S.M. Tons { Gross - Net -

Master - Built at West Hartlepool By whom built Richardsons Westgarth & Co. Ld. When built 1943

Engines made at CHESTERFIELD By whom made Markham & Co. Ltd., when made -

Boilers made at - By whom made - when made -

Registered Horse Power - Owners - Port belonging to -

Nom. Horse Power as per Section 28 445 Is Refrigerating Machinery fitted for cargo purposes - Is Electric Light fitted -

ENGINES, &c. - Description of Engines Triple Expansion No. of Cylinders 3 No. of Cranks 3
Dia. of Cylinders 24 1/2" 39" 70" Length of Stroke 48" Revs. per minute - Dia. of Screw shaft as per rule - Material of screw shaft as fitted -

Is 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 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 -

Dia. of Tunnel shaft as per rule - Dia. of Crank shaft journals as per rule AS approved as fitted 14 1/2" Dia. of Crank pin 14 3/4" Size of Crank webs 9" th. Dia. of thrust shaft under collars - Dia. of screw - Pitch of Screw - No. of Blades - State whether moceable - Total surface -

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

No. of Bilge pumps 2 Diameter of ditto 4" Stroke 2'3" Can one be overhauled while the other is at work Yes

No. of Donkey Engines - Sizes of Pumps - No. and size of Suctions connected to both Bilge and Donkey pumps In Engine Room In Holds, &c.

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

Are all the bilge suction pipes fitted with roses Are the roses in Engine room always accessible Are the sluices on Engine room bulkheads always accessible

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

Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates Are the Discharge Pipes above or below the deep water line

Are they each fitted with a Discharge Valve always accessible on the plating of the vessel Are the Blow Off Cocks fitted with a spigot and brass covering plate

What pipes are carried through the bunkers How are they protected

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

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

Is the Screw Shaft Tunnel watertight Is it fitted with a watertight door worked from

BOILERS, &c. - (Letter for record -) Manufacturers of Steel

Total Heating Surface of Boilers Is Forced Draft fitted No. and Description of Boilers

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

Can each boiler be worked separately Area of fire grate in each boiler No. and Description of Safety Valves to each boiler Area of each valve Pressure to which they are adjusted Are they fitted with easing gear

Smallest distance between boilers or uptakes and bunkers or woodwork Mean dia. of boilers Length Material of shell plates

Thickness Range of tensile strength Are the shell plates welded or flanged Descrip. of riveting: cir. seams long. seams Diameter of rivet holes in long. seams Pitch of rivets Lap of plates or width of butt straps

Per centages of strength of longitudinal joint rivets Working pressure of shell by rules Size of manhole in shell plate Working pressure of shell by rules

Size of compensating ring No. and Description of Furnaces in each boiler Material Outside diameter

Length of plain part top Thickness of plates crown Description of longitudinal joint No. of strengthening rings bottom Thickness of plates bottom Working pressure by rules

Working pressure of furnace by the rules Combustion chamber plates: Material Thickness: Sides Back Top Bottom Working pressure by rules

Pitch of stays to ditto: Sides Back Top If stays are fitted with nuts or riveted heads Working pressure by rules End plates in steam space: Material of stays Working pressure by rules

Material of stays Area at smallest part Area supported by each stay Working pressure by rules Material of Front plates at bottom

Material Thickness Pitch of stays How are stays secured Working pressure by rules Material of Front plates at bottom

Area at smallest part Area supported by each stay Working pressure by rules Working pressure of plate by rules

Thickness Material of Lower back plate Thickness Greatest pitch of stays Working pressure of plate by rules

Diameter of tubes Pitch of tubes Material of tube plates Thickness: Front Back Mean pitch of stays

Pitch across wide water spaces Working pressures by rules Girders to Chamber tops: Material Depth and thickness of girder at centre Length as per rule Distance apart Number and pitch of stays in each Working pressure by rules % of strength of joint

Working pressure by rules Steam dome: description of joint to shell Diam. of rivet holes

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

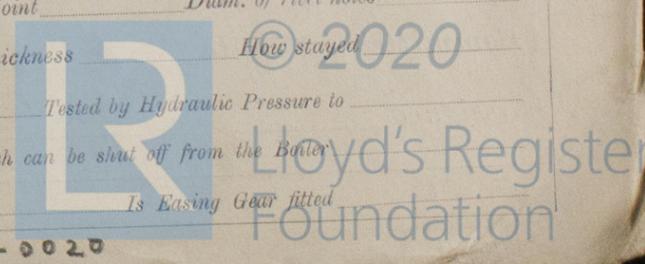
Tested by Hydraulic Pressure to

SUPERHEATER. Type Date of Approval of Plan

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

2m, 11, 20, T



W1038-0020

IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied :-

- 1 complete bottom end bearing with bolts and nuts
- 1 " " top " " " " " " " "
- 2 main bearing bolts and nuts
- 1 set of rings for H.P. Piston
- 6 cylinder cover studs and nuts, 6 Junk ring studs and nuts
- 1 set of bilge pump valves and seats, suction and discharge
- 1 set of metallic packing for H.P. piston rod (wearing parts)
- 1 set of rings for H.P. Piston valve
- Tools as specified.

The foregoing is a correct description,

Signed for Markham & Co. Ltd.,
F. WILLIAMS,
Works' Director

Manufacturer.

Dates of Survey while building { During progress of work in shops - - } 2nd May, 1941 - 25th June, 1943
 { During erection on board vessel - - - } --
 Total No. of visits 65

Is the approved plan of main boiler forwarded herewith

" " " donkey " " "

Dates of Examination of principal parts—Cylinders 2.9.42 Slides 11.9.42 Covers 8.9.42 Pistons 8.9.42 Rods 15.4.42

Connecting rods 1.6.42 Crank shaft 31.7.42 Thrust shaft - Tunnel shafts - Screw shaft - Propeller -

Stern tube - Steam pipes tested - Engine and boiler seatings - Engines holding down bolts -

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 S.M.S. Identification Mark on Do. 5434 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 Yes

See also

Is this machinery duplicate of a previous case No If so, state name of vessel Sheffield Report 526 of even date

General Remarks (State quality of workmanship, opinions as to class, &c. The machinery described above has been constructed under Special Survey and in accordance with the Rules.

The materials and workmanship are good and in my opinion the machinery is eligible for the Society's class upon being satisfactorily installed and tested under working conditions aboard a vessel.

Survey confined to engine from after crankshaft coupling.

The amount of Entry Fee ... £	- : - :	When applied for,
2/5ths special + 25%	50 : 6 :	19
Donkey Boiler Fee ... £	- : - :	When received,
Travelling Expenses (if any) £	9 : 10 :	19

Signed - W. KIMBER,

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

FRI. 1 MAR 1946

Assigned See F.E. machy. rpt.



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Lloyd's Register Foundation

Rpt. 5a
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Certificate (if required) to be sent to
The Surveyors are requested not to write on or below the space for Committee's Minute.