

REPORT ON MACHINERY.

No. 76569

Received at London Office

TUE. 27 MAR. 1923

Date of writing Report March 30th 1923 When handed in at Local Office March 31st 1923 Port of NEWCASTLE-ON-TYNE

No. in Survey held at Newcastle on Tyne Date, First Survey Oct 4th 1919 Last Survey March 19th 1923
Reg. Book. 66561 on the SCREW STEAMER "MANDERAN" (Number of Visits 139)

Master ✓ Built at Alcoa By whom built Firth 1129. Coy. Ltd. Tons Gross 9250
Net 3390 When built 1922

Engines made at Newcastle on Tyne By whom made Sir W. Armstrong Whitworth & Co. Ltd. when made 1922

Boilers made at Newcastle on Tyne By whom made Sir W. Armstrong Whitworth & Co. Ltd. when made 1922

Registered Horse Power 857 Owners Stoomv. Maats. Nederland Port belonging to Amsterdam

Nom. Horse Power as per Section 860 Is Refrigerating Machinery fitted for cargo purposes 20 Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines Triplic Expansion No. of Cylinders 3 No. of Cranks 3

Dia. of Cylinders 32 - 52 - 89 Length of Stroke 54 Revs. per minute 81 Dia. of Screw shaft 17 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 Yes

If two liners are fitted, is the shaft lapped or protected between the liners — Length of stern bush 6'6"

Dia. of Tunnel shaft 15.5 Dia. of Crank shaft journals 16.3 Dia. of Crank pin 16.75 Size of Crank webs 3 1/2 x 11 Dia. of thrust shaft under collars 16 1/2 Dia. of screw 21.0 Pitch of Screw (mean) 15.5 No. of Blades 4 State whether moceable Yes Total surface 154.59 sq ft

No. of Feed pumps 2 Diameter of ditto 10 1/2 x 8 x 24 Stroke — Can one be overhauled while the other is at work Yes

No. of Bilge pumps 2 Diameter of ditto 6 3/8 Stroke 15 Can one be overhauled while the other is at work Yes

No. of Donkey Engines 2 Sizes of Pumps 10 x 12 x 12 6 x 8 x 7 No. and size of Suctions connected to both Bilge and Donkey pumps —

In Engine Room Three - 3 1/2 dia In Holds, &c. No. 1 2 - 3 1/2 dia No. 2 2 - 3 1/2 dia Deep Tank 4 - 3 dia

No. of Bilge Injections 1 sizes 1 1/2 Connected to condenser, or to circulating pump Yes Is a separate Donkey Suction fitted in Engine room & size 1 - 3 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 —

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 & Below

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 —

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 Upper platform

BOILERS, &c.—(Letter for record 5) Manufacturers of Steel J. Colville & Sons

Total Heating Surface of Boilers 12200 Is Forced Draft fitted Yes No. and Description of Boilers 5 Water Tube Boilers

Working Pressure 180 lbs Tested by hydraulic pressure to 320 lbs Date of test 19.1.23 No. of Certificate 9419

Can each boiler be worked separately Yes Area of fire grate in each boiler 45 sq ft No. and Description of Safety Valves to each boiler 2 Spring loaded

Area of each valve 8.290 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 1-10 Mean dia. of boilers 24 1/2 Length 413/15 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 — Working pressure of shell by rules — Size of manhole in shell —

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

Length of plain part — Thickness of plates — Description of longitudinal joint — No. of strengthening rings —

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

Pitch of stays to ditto: Sides — Back — Top — If stays are fitted with nuts or riveted heads — Working pressure by rules —

Material of stays — Area at smallest part — Area supported by each stay — Working pressure by rules — End plates in steam space: —

Material — Thickness — Pitch of stays — How are stays secured — 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 —

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 —

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 —

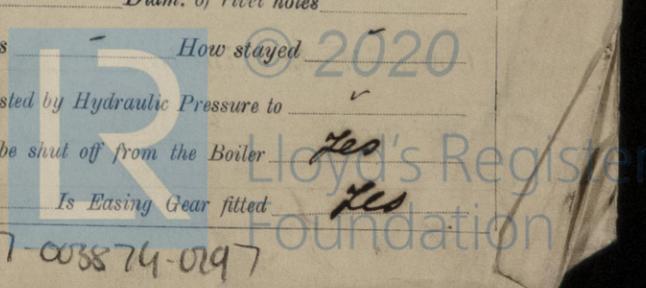
UPERHEATER. Type Horizontal Date of Approval of Plan — Tested by Hydraulic Pressure to —

Date of Test — Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler Yes

Diameter of Safety Valve 2" Pressure to which each is adjusted 190 lbs Is Easing Gear fitted Yes

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

If Suctions, state Mechanical Test.



005867-005874-0197

IS A DONKEY BOILER FITTED?

no

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied: - 2 top end and 2 bottom end bolts and nuts. 2 main bearing bolts and nuts. a set of coupling bolts and nuts. a piston ring for each engine. 4 helix pump valves and seals. 2 bronze propeller blades. One propeller shaft. One 3rd part crankshaft. 50 turned bolts and nuts. 3 iron bolts and nuts assorted. 6 iron bars. 2 M.P. floating valve spindles. One piston rod. 3 valve spindles. One set of cross head brasses. 2 thrust block segments. A set of piston rings and valves for ballast pump and for which condenser circulating pump. One pair of locomotive rod brasses. A set of motion and delivery valves, and a valve spindle for the aux feed pump. one main and one aux check valves for boilers. 60 smoke tubes. 30 stay tubes. 50 condenser tubes, and many other items of spare gear of minor importance.

The foregoing is a correct description,

FOR SIR W. G. ARMSTRONG, WHITWORTH & CO. LIMITED.

Harold Shuster

Manufacturer.

Dates of Survey while building: During progress of work in shops - 1919 Oct 7, 1920 Jan 12, 16, 30, Mar 29, April 7, 8, 9, 20, 26, May 3, 4, 10, 13, 18, June 14, 16, 21, 28, July 3, 24, 1920 Aug 3, 5, 11, 12, 13, 17, 19, 23, Sept 1, 2, 6, 7, 8, 10, 13, 14, 15, 17, 22, 29, Oct 7, 11, 12, 18, 26, 28, Nov 1, 3, 5, 8, 15, 18, 19, 22, 24, 1920 Dec 1, 9, 21, 28, 1921 Jan 4, 10, 17, 25, 29, Feb 10, 18, March 7, 14, April 6, 8, 19, 1922 Feb 10, 22, March 4, 15, 17, 20, 1922 May 7, 22, June 12, 15, 16, 24, July 6, 10, 12, 19, 20, 31, Aug 4, 31, Sept 4, 6, 8, 18, Oct 4, 10, 12, 13, 16, Nov 3, 8, 1922 Dec 13, 20, 21, 24, 29, 1923 Jan 14, 8, 11, 15, 18, 22, 27, 1923 Feb 4, 5, 11, 15, 17, 19, 20, 23, 26, 29, 31, Mar 5, 7, 14, 16, 19, 23, 26, 28, March 1923 Boiler plan returned until the last detail is completed.

Total No. of visits 139 Is the approved plan of main boiler forwarded herewith no

Dates of Examination of principal parts - Cylinders 15.6.22, 12.7.22, 19.7.22 Slides 11.9.22 Covers 11.9.22 Pistons 28.1.21 Rods 17.9.20

Connecting rods 17.9.20 Crank shaft 18.2.21 Thrust shaft 28.7.20 Tunnel shafts 17.8.20 Screw shaft 10.7.22 Propeller 11.9.22

Stern tube 11.9.22 Steam pipes tested 19.2.23 Engine and boiler seatings 13.11.22 Engines holding down bolts 29.1.23

Completion of pumping arrangements 29.1.23 Boilers fixed 29.1.23 Engines tried under steam 23.2.23

Completion of fitting sea connections 4.10.22 Stern tube 4.10.22 Screw shaft and propeller 13.11.22

Main boiler safety valves adjusted 23.2.23 Thickness of adjusting washers Port A 1/16, Port F 1/16, Centre F 1/16, etc.

Material of Crank shaft steel Identification Mark on Do. 13.10.22 WRA Material of Thrust shaft steel Identification Mark on Do. 12.7.22 WRA

Material of Tunnel shafts steel Identification Marks on Do. 12.10.22 WRA Material of Screw shafts steel Identification Marks on Do. 13.10.22

Material of Steam Pipes solid drawn steel Test pressure 540 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 yes If so, state name of vessel S.S. 'Napier'

General Remarks (State quality of workmanship, opinions as to class, &c. This vessel's machinery has been examined during construction, and the materials and workmanship are good, and in accordance with the requirements of the rules, and the approved plans. On completion it was submitted to a steam trial with satisfactory results, at which trial the safety valves were adjusted under steam to the working pressure. It is therefore eligible in our opinion to be classed with the notation of + LMC 3.23 in the R. Book. -

Glasgow reports 41216 + 42276 attached.

It is submitted that this vessel is eligible for THE RECORD. + LMC 3.23. FD. CL. 5 Water Tube Boilers. 180 lbs.

MACHINERY CERTIFICATE WRITTEN 28/3/23

Handwritten signatures and date 27/3/23

The amount of Entry Fee ... £ 6 Special Glasgow Boiler fee ... £ 118 Donkey Boiler Fee ... £ 56 Travelling Expenses (if any) ... £ 61-13

When applied for, 23/3/1923 When received, 29/3/23 Wm Austin + Maurice Pitson Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute Assigned + LMC 3.23 F.D. C.L. Water Tube Boilers

