

REPORT ON MACHINERY.

No. 6032
FRI. 7 JUL. 1922

Received at London Office

Date of writing Report 26th JUNE 1922 When handed in at Local Office 26th JUNE 1922 Port of BILBAONo. in Survey held at BILBAO Date, First Survey 24th Oct. 1921 Last Survey 19th JUNE 1922
Reg. Book. 13841 on the S/S "MARI" (EX "ULVERSMEAD") (Number of Visits 36.)

Master Built at SUNDERLAND By whom built W. DOXFORD & SONS LTD. When built 1907

Engines made at SHIELDS By whom made W. DOXFORD & SONS LTD. when made 1907

Boilers made at SHIELDS By whom made W. DOXFORD & SONS. when made 1907

Registered Horse Power 310 Owners CIA. NAVIERE AMAYA Port belonging to CALAIS

Nom. Horse Power as per Section 28 342 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted YES

ENGINES, &c.—Description of Engines TRIPLE EXPANSION No. of Cylinders 3 No. of Cranks 3

Dia. of Cylinders 24, 41, 68. Length of Stroke 45 Revs. per minute ✓ Dia. of Screw shaft as per rule 13.921 Material of screw shaft STEEL as fitted 14.125

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 6'-0" ✓

Dia. of Tunnel shaft as per rule 12.201 Dia. of Crank shaft journals as per rule 12.810 Dia. of Crank pin 12.750 Size of Crank webs 18.7 x 8.66 Dia. of thrust shaft under as fitted 12.375 as fitted 12.750

collars 12.750 Dia. of screw 17'-4" Pitch of Screw ✓ No. of Blades 4 State whether moveable No Total surface ✓

No. of Feed pumps 2 Diameter of ditto 4" Stroke 29" Can one be overhauled while the other is at work YES ✓

No. of Bilge pumps 2 Diameter of ditto 4" Stroke 29" Can one be overhauled while the other is at work YES ✓

No. of Donkey Engines 2 Sizes of Pumps 9" x 10" 6.25 x 8.25. No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room 3-3" SUCTIONS 1-2½" TUNNEL SUCTION In Holds, &c. No. 1 Hold 2-2½" S. No. 2 Hold 2-3" S.

No. 3 Hold 2-2½" SUCTIONS No. 4 Hold 2-2½" SUCTIONS.

No. of Bilge Injections 1 sizes 6" Connected to condenser, or to circulating pump CIRC. P. Is a separate Donkey Suction fitted in Engine room & size YES 3

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 ✓

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 NIL 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 TOP PLATFORM.

BOILERS, &c.—(Letter for record S.) Manufacturers of Steel ✓ PLAN OF BOILERS APPROVED 1/12/21

Total Heating Surface of Boilers 5340.5 Is Forced Draft fitted No No. and Description of Boilers TWO SINGLE ENDED MARINE

Working Pressure 180 lbs 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 72 sq ft No. and Description of Safety Valves to

each boiler 2 SPRING LOADED Area of each valve 11.04 sq in Pressure to which they are adjusted 180 lbs Are they fitted with easing gear YES ✓

Smallest distance between boilers or uptakes and bunkers or woodwork 3'-0" Mean dia. of boilers 16'-6" Length 11'-3" Material of shell plates STEEL

Thickness 1 3/8 Range of tensile strength 28-32 Are the shell plates welded or flanged ✓ Descrip. of riveting: cir. seams DOUBLE LAP

long. seams 7 BUTT STRAPS Diameter of rivet holes in long. seams 1 1/2" Pitch of rivets 9" Lap of plates or width of butt straps 1-7 8 x 1 5/16

Per centages of strength of longitudinal joint rivets 85.3432 Working pressure of shell by rules 189 Size of manhole in shell END PLATE 1'-0" x 1'-4"

Size of compensating ring FLANGED No. and Description of Furnaces in each boiler 3 BROWN'S IMPROVED Material STEEL Outside diameter 4'-4 1/4"

Length of plain part top Thickness of plates crown 5/8 Description of longitudinal joint WELD No. of strengthening rings ✓

Working pressure of furnace by the rules 188 Combustion chamber plates: Material STEEL Thickness: Sides 23/32 Back 45/64 Top 23/32 Bottom 23/32

Pitch of stays to ditto: Sides 9 1/2 x 10" Back 9 1/2 x 9" Top 10 x 10" If stays are fitted with nuts or riveted heads NUTS Working pressure by rules 199

Material of stays STEEL Area at smallest part 2.03 sq in Area supported by each stay 85.5 sq in Working pressure by rules 213 End plates in steam space:

Material STEEL Thickness 1 9/64 Pitch of stays 1-7 x 1-6 1/2 How are stays secured 4 1/2 NUTS & WASERS Working pressure by rules 180 Material of stays STEEL

Area at smallest part 6.10 Area supported by each stay 351.625 Working pressure by rules 181 Material of Front plates at bottom STEEL

Thickness 27/32 Material of Lower back plate STEEL Thickness 5/16 Greatest pitch of stays 13 x 9 Working pressure of plate by rules 180

Diameter of tubes 3 1/2 Pitch of tubes 4 3/4 - 4 3/4 Material of tube plates STEEL Thickness: Front 7/8 Back 13/16 Mean pitch of stays 11" 9 1/2

Pitch across wide water spaces 13 1/2 Working pressures by rules 226 Girders to Chamber tops: Material STEEL Depth and

thickness of girder at centre 11" x 1 1/2 Length as per rule 3'-1 1/2 Distance apart 10" Number and pitch of stays in each 3-10" PITCH.

Working pressure by rules 187 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

010219-010228-0100

IS A DONKEY BOILER FITTED?

YES.

If so, is a report now forwarded?

YES.

SPARE GEAR. State the articles supplied:— 2 Piston rod top end bolts & nuts. 2 Crank rod bottom end bolts & nuts. 2 main bearing bolts. 1 Set of Coupling bolts. 1 Set of feed & bilge pump valves. Set of rings for each size piston. Set of springs for relief valves. 1 Spare propeller. Quantity of assorted bolts & nuts. 1 ton 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.

" " " donkey " " " YES.

Dates of Examination of principal parts—Cylinders 29/12/21 Slides 29/12/21 Covers 29/12/21 Pistons 27/2/22 Rods 27/2/22

Connecting rods 27/2/22 Crank shaft 29/12/21 Thrust shaft 29/12/21 Tunnel shafts 29/12/21 Screw shaft 29/12/21 Propeller 29/12/21

Stern tube ✓ Steam pipes tested 22/2/22. Engine and boiler seatings 30/1/22 Engines holding down bolts 6/2/22

Completion of pumping arrangements 13/6/22 Boilers fixed 3/2/22 Engines tried under steam 16/6/22

Completion of fitting sea connections 25/4/22 Stern tube 25/4/22 Screw shaft and propeller

Main boiler safety valves adjusted 1/6/22 Thickness of adjusting washers S. 12 1/4" P. 10 1/4" S. 7 1/4" P. 10 1/4"

Material of Crank shaft STEEL Identification Mark on Do. 542 Material of Thrust shaft STEEL Identification Mark on Do. 542

Material of Tunnel shafts STEEL Identification Marks on Do. 542 Material of Screw shafts STEEL Identification Marks on Do. 542.

Material of Steam Pipes COPPER Test pressure 360 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 ✓ If so, state name of vessel ✓

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

The machinery of this vessel has been examined whilst being re-erected at the port & on completion the machinery was examined under steam and found in order.

The vessel has been placed in drydock the sea connections opened up & exam'd the screw shaft drawn inboard & examined. All cylinders, pistons and valves exam'd. Crank, thrust & tunnel shafting exam'd. Air circulating feed & bilge pumps exam'd. Condenser exam'd & tested. Bridge & tank valve connections exam'd & the general pumping arrangement found to be in accordance with the rules. The main & donkey boilers together with their mounting, have been opened up and examined internally & externally. The safety valves have been examined & adjusted under steam to lift at 180 lbs & 110 lbs respectively.

The machinery, as far as now seen is in an efficient & safe working condition & is eligible in my opinion for classification and to have the records of L.M.C. 6-22 & T.S. 6-22 (C.L.)

Perkins.

The amount of Entry Fee ... £ 175.00 : When applied for.

Special ... £ 1500.00 : 3rd July 1922

Donkey Boiler Fee ... £ 200.00 : When received.

Travelling Expenses (if any) £ 55.00 : 3rd July 1922

Committee's Minute

TUE. SEP. 19 1922

Assigned

L.M.C. 6.22 C.L.

22.9.22 ref 11222.

W. G. Kinlay & C. H. Fowling

Engineer Surveyor to Lloyd's Register of Shipping.



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