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REPORT ON MACHINERY.

No. 37024

Date of writing Report 19 1926 When handed in at Local Office 5/5/26 Port of Hull Received at London Office 13 MAY 1926

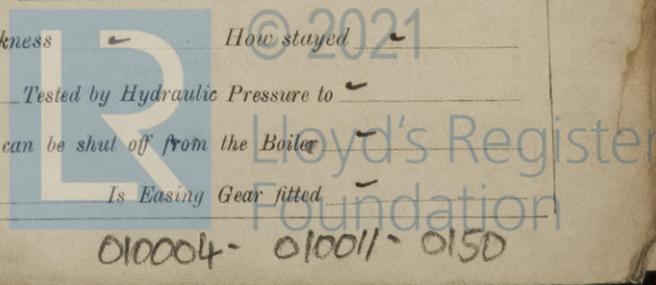
No. in Survey held at Hull Date, First Survey 1-1-26 Last Survey 28-4-1926
 Reg. Book. Hull (Number of Visits 28) Tons } Gross 352
 on the steam trawler "TOURMALINE" } Net 147

Master Bernerley Built at Bernerley By whom built Cook, Welton & Gemmell, Ltd. When built 1926
 Engines made at Hull By whom made Charles D. Holmes & Co. Ltd. (No 1299) when made 1926
 Boilers made at Hull By whom made Charles D. Holmes & Co. Ltd. (No 1299) when made 1926
 Registered Horse Power 96 Owners Kingston Steam Trawling Co. Ltd. Port belonging to Hull
 Nom. Horse Power as per Section 28 96 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 13-23-37 Length of Stroke 26 Revs. per minute 110 Dia. of Screw shaft as per rule 7.7 Material of screw shaft steel
 as fitted 8.2
 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 yes 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 no If two liners are fitted, is the shaft lapped or protected between the liners no Length of stern bush 36"
 Dia. of Tunnel shaft as per rule 6.89 Dia. of Crank shaft journals as per rule 7.24 Dia. of Crank pin 7.2 Size of Crank webs 14.2 x 4.8 Dia. of thrust shaft under collars 7.2 Dia. of screw 9-9 Pitch of Screw 11-0 No. of Blades 4 State whether moceable no Total surface 34 sq
 No. of Feed pumps one Diameter of ditto 2 7/8 Stroke 14 3/4 Can one be overhauled while the other is at work yes
 No. of Bilge pumps one Diameter of ditto 2 7/8 Stroke 14 3/4 Can one be overhauled while the other is at work yes
 No. of Donkey Engines one Sizes of Pumps 6 x 4 1/2 x 6 & 1 ejector No. and size of Suctions connected to both Bilge and Donkey pumps in Engine Room 2 @ 2" dia; one fwd & one aft In Holds, &c. One 2" from each Compartment
 No. of Bilge Injections 1 sizes 3 1/2" Connected to condenser, or to circulating pump pump Is a separate Donkey Suction fitted in Engine room & size yes, 3"
 Are all the bilge suction pipes fitted with roses no 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 forward suction How are they protected wood casing
 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 yes

BOILERS, &c.—(Letter for record S) Manufacturers of Steel Mannesmannröhren Werke, Hückingen
 Total Heating Surface of Boilers 1698 sq Is Forced Draft fitted no No. and Description of Boilers One S.E. main
 Working Pressure 200 Tested by hydraulic pressure to 350 Date of test 22-3-26 No. of Certificate 3592
 Can each boiler be worked separately yes Area of fire grate in each boiler 49.2 sq No. and Description of Safety Valves to each boiler 2 spring loaded Area of each valve 4.90" Pressure to which they are adjusted 200 lb Are they fitted with easing gear yes
 Smallest distance between boilers or uptakes and bunkers or woodwork 7" INT. diam. of boilers 14-0" Length 10-8" Material of shell plates S
 Thickness 1 1/32 Range of tensile strength 28/32 tons Are the shell plates welded or flanged no Descrip. of riveting: cir. seams DR
 long. seams T.R.D.B.S. Diameter of rivet holes in long. seams 1 9/32 Pitch of rivets 8 9/16 Lap of plates or width of butt straps 18 13/16
 Per centages of strength of longitudinal joint rivets 90.8 Working pressure of shell by rules 201 Size of manhole in shell 16 x 12
 plate 85.03 Size of compensating ring 36 x 27 x 1 1/2 No. and Description of Furnaces in each boiler 3 plain Material S Outside diameter 41
 Length of plain part top 76 bottom 69 Thickness of plates crown 13 1/16 bottom 13 1/16 Description of longitudinal joint welded No. of strengthening rings no
 Working pressure of furnace by the rules 219 Combustion chamber plates: Material S Thickness: Sides 3/4 Back 23/32 Top 3/4 + 23/32 Bottom 3/4
 Pitch of stays to ditto: Sides 9 x 8 3/4 Back 9 x 8 1/2 Top 9 x 8 3/4 If stays are fitted with nuts or riveted heads nuts Working pressure by rules 230
 Material of stays S Area at smallest part 2.070 Area supported by each stay 78.750 Working pressure by rules 230 End plates in steam space: Material S Thickness 1 3/16 Pitch of stays 18" How are stays secured D.N.T.W. Working pressure by rules 220 Material of stays S
 Area at smallest part 7.50 Area supported by each stay 3240 Working pressure by rules 275 Material of Front plates at bottom S
 Thickness 15/16 Material of Lower back plate S Thickness 29/32 Greatest pitch of stays 14 x 8 3/4 Working pressure of plate by rules 228
 Diameter of tubes 3 1/2 Pitch of tubes 4 7/8 Material of tube plates S Thickness: Front 15/16 Back 7/8 Mean pitch of stays 11.2
 Pitch across wide water spaces 13 3/4 Working pressures by rules 212 Girders to Chamber tops: Material S Depth and thickness of girder at centre 10 1/2 } x 1 3/4 Length as per rule 36 3/16 Distance apart 9 Number and pitch of stays in each 3 @ 8 3/4
 Working pressure by rules 210 Steam dome: description of joint to shell no % of strength of joint no
 Diameter no Thickness of shell plates no Material no Description of longitudinal joint no Diam. of rivet holes no
 Pitch of rivets no Working pressure of shell by rules no Crown plates no Thickness no How stayed no

SUPERHEATER. Type no Date of Approval of Plan no Tested by Hydraulic Pressure to no
 Date of Test no Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler no
 Diameter of Safety Valve no Pressure to which each is adjusted no Is Easing Gear fitted no



IS A DONKEY BOILER FITTED?

No

If so, is a report now forwarded? ✓

SPARE GEAR. State the articles supplied:— Two top end belts & nuts, 2 bottom end belts & nuts, 2 main bearing belts & nuts, Set of coupling belts & nuts, valves for air, feed, bilge, & donkey pumps, main & donkey check valves, safety valve spring, circulating pump impeller & spindle. Feed pump ram, gland, & neck ring.

The foregoing is a correct description,

Charles D. Cooper

Manufacturer.

Dates of Survey while building { During progress of work in shops -- } 1926:— Jan. 5, 12, 20, 22, 28, Feb 3, 9, 10, 11, 12, 16, 17, 23, 24, 26, Mar 4, 9, 15
{ During erection on board vessel --- } 17, 18, 22, 29, Apr 14, 16, 20, 26, 28.
Total No. of visits 28.

Is the approved plan of main boiler forwarded herewith *yes*

Dates of Examination of principal parts—Cylinders 15-3-26 Slides 17-3-26 Covers 15-3-26 Pistons 17-3-26 Rods 17-3-26
Connecting rods 17-3-26 Crank shaft 9-3-26 Thrust shaft 9-3-26 Tunnel shafts ✓ Screw shaft 10-2-26 Propeller 12-2-26
Stern tube 12-2-26 Steam pipes tested 21-4-26 Engine and boiler seatings 26-2-26 Engines holding down bolts 20-4-26
Completion of pumping arrangements 28-4-26 Boilers fixed 20-4-26 Engines tried under steam 26-4-26
Completion of fitting sea connections 26-2-26 Stern tube 26-2-26 Screw shaft and propeller 26-2-26
Main boiler safety valves adjusted 26-4-26 Thickness of adjusting washers F. 7/16. A 9/32
Material of Crank shaft *Steel* Identification Mark on Do. 214 P.F. Material of Thrust shaft *Steel* Identification Mark on Do. 214 P.F.
Material of Tunnel shafts ✓ Identification Marks on Do. ✓ Material of Screw shafts *Steel* Identification Marks on Do. 214 P.F.
Material of Steam Pipes *S.D. Copper 4" dia. 6 W.G.* Test pressure 400 lbs per sq. in.

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 *Sardini* ✓

General Remarks (State quality of workmanship, opinions as to class, &c. The engines & boiler of this vessel have been built under special survey, & in accordance with the approved plans & the Rules of this Society. The materials & workmanship are good. The machinery has been satisfactorily fitted on board, tried under working conditions, & found good. The steam & feed pipes have been tested by hydraulic pressure as required by the Rules. The safety valves have been adjusted under steam & tried for accumulation. The machinery is eligible in my opinion for the record + LMC 4.26; c.l. in the Register Book.

The steel invoices were forwarded with Hull Report No 36953 on the duplicate boiler 1298. (S.T. Sardini)

It is submitted that this vessel is eligible for THE RECORD + LMC 4.26 CL.

The amount of Entry Fee ... £ 2 : -
Special ... £ 24 : -
Donkey Boiler Fee ... £ :
Travelling Expenses (if any) £ :
When applied for 11/5/26
When received 1/6/26

P. Fitzgerald
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

FRL 14 MAY 1926

Assigned

+ LMC 4.26
C.L.

TUES. 22 JUN 1926



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