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REPORT ON MACHINERY.

No. 36953
12 APR 1926

Received at London Office

Date of writing Report 19 When handed in at Local Office 10/4/1926 Port of Hull
 No. in Survey held at Hull Date, First Survey 1-1-26 Last Survey 26-3-1926
 Reg. Book. (Number of Visits 26)
 on the steam trawler "SARDIUS" (No. 481) Tons } Gross 352.74
 Master Built at Beverley. By whom built Cook, Wilton & Gemmill Ltd. When built 1926-3 } Net 146.9

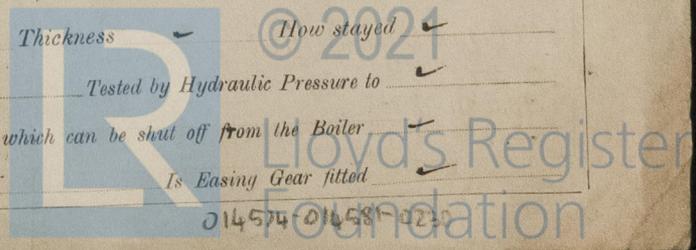
Engines made at Hull By whom made Charles D Holmes & Co. Ltd. (No. 1298) when made 1926
 Boilers made at Hull By whom made Charles D Holmes & Co. Ltd. (No. 1298) when made 1926.
 Registered Horse Power Owners Kingston Steam Trawling Co. Ltd. Port belonging to Hull.
 Nom. Horse Power as per Section 28 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 8.4"
 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 If two
 liners are fitted, is the shaft lapped or protected between the liners 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 1/2" Size of Crank webs 14 1/4 x 4 3/8" Dia. of thrust shaft under
 collars 7 1/2" Dia. of screw 9-9" Pitch of Screw 11-0" No. of Blades 4 State whether moveable no Total surface 34 sq ft
 No. of Feed pumps one Diameter of ditto 2 5/8" Stroke 14 3/4" Can one be overhauled while the other is at work
 No. of Bilge pumps one Diameter of ditto 2 5/8" Stroke 14 3/4" Can one be overhauled while the other is at work
 No. of Donkey Engines one Sizes of Pumps 6 x 4 1/4 x 6" & 1 ejector No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room 2 @ 2" dia, one for & 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 mud 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 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 found 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 Is it fitted with a watertight door worked from

BOILERS, &c.—(Letter for record S.) Manufacturers of Steel Mannesmannröhren Werke, Hückingen, 1.5B
 Total Heating Surface of Boilers 1698 sq ft Is Forced Draft fitted no No. and Description of Boilers One S.E. main.
 Working Pressure 200 Tested by hydraulic pressure to 350 lbs. Date of test 4-3-26 No. of Certificate 3588.
 Can each boiler be worked separately Area of fire grate in each boiler 49.2 sq ft No. and Description of Safety Valves to
 each boiler 2 spring loaded Area of each valve 4.90 sq in Pressure to which they are adjusted 200 lbs Are they fitted with easing gear yes
 Smallest distance between boilers or uptakes and bunkers or woodwork 7" Mean dia. 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.S. Diameter of rivet holes in long. seams 1 1/32" Pitch of rivets 8 1/16" 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 85.0
 Size of compensating ring 34 x 27 x 1 1/32" 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" Description of longitudinal joint welded No. of strengthening rings
 bottom 16
 Working pressure of furnace by the rules 219 Combustion chamber plates: Material S Thickness: Sides 3/4" Back 23/32" Top 3/4" 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 DN+W. Working pressure by rules 220 Material of stays S
 Area at smallest part 7.50" Area supported by each stay 324.0" 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 lbs 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 30 @ 8 3/4"
 Working pressure by rules 210 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
 Tested by Hydraulic Pressure to

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 Report also sent on the state of the ship



IS A DONKEY BOILER FITTED?

No

If so, is a report now forwarded?

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

The foregoing is a correct description,

For CHARLES D. HOLMES & Co. LTD

C. Cooper

Manufacturer.

Dates of Survey while building: During progress of work in shops -- 1926: Jan 1, 5, 12, 15, 20, 22, 26, 27, 28, Feb 2, 3, 9, 10, 11, 16, 17, 23, 24, 26. During erection on board vessel --- Mar 4, 13, 14, 20, 24, 26. Total No. of visits 26

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

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

Dates of Examination of principal parts—Cylinders 17-2-26 Slides 26-2-26 Covers 17-2-26 Pistons 26-2-26 Rods 23-2-26 Connecting rods 23-2-26 Crank shaft 24-2-26 Thrust shaft 9-2-26 Tunnel shafts ✓ Screw shaft 26-1-26 Propeller 26-1-26 Stern tube 26-1-26. Steam pipes tested 19-3-26 Engine and boiler seatings 2-2-26 Engines holding down bolts 13-3-26. Completion of pumping arrangements 26-3-26 Boilers fixed 13-3-26 Engines tried under steam 20-3-26. Completion of fitting sea connections 2-2-26 Stern tube 2-2-26 Screw shaft and propeller 2-2-26. Main boiler safety valves adjusted 20-3-26. Thickness of adjusting washers F 3/8 A 11/32

Material of Crank shaft *Steel* Identification Mark on Do. *210 P.F.* Material of Thrust shaft *Steel* Identification Mark on Do. *210 P.F.*

Material of Tunnel shafts ✓ Identification Marks on Do. ✓ Material of Screw shafts *Steel* Identification Marks on Do. *210 P.F.*

Material of Steam Pipes *S.D. Copper. 4" dia. 6 W.G.* Test pressure *400 lb 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. ✓ *Andradite*

Is this machinery duplicate of a previous case *Yes* If so, state name of vessel *Andradite*

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 to have the record + LMC 3.26, cl. in the Register Book.

The steel invoices sent herewith relate also to duplicate boiler 1299.

It is submitted that this vessel is eligible for THE RECORD + LMC 3.26. CL.

The amount of Entry Fee ... £ 2 :-
Special ... £ 24 :-
Donkey Boiler Fee ... £ : :
Travelling Expenses (if any) £ : :

When applied for, 10/4/1926

When received, 30-4-26

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

Committee's Minute

TUES. 13 APR 1926

Assigned

+ L.M.C. 3.26



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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.