

REPORT ON MACHINERY.

No. 27127

Received at London Office

TUE. JAN. 27. 1914

Date of writing Report 14. 1. 14 When handed in at Local Office

Port of Hull

No. in Survey held at Hull

Date, First Survey Oct. 22nd Last Survey Jan 16th 1914

Reg. Book. 1/6 sup. on the Hull S. K. "AGATE"

(Number of Visits 28)

Tons { Gross 248
Net 98

Master Built at Selby

By whom built Lamborn & Sons Ltd.

When built 1914

Engines made at } By whom made }

when made } 1914

Boilers made at } Hull

By whom made } Messrs. Charles R. Holmes & Co. Ltd.

when made }

Registered Horse Power

Owners Timplon Steam Traction Co. Ltd. Port belonging to Hull

Nom. Horse Power as per Section 28 45

Is Refrigerating Machinery fitted for cargo purposes No

Is Electric Light fitted No

ENGINES, &c.—Description of Engines

Triple Expansion

No. of Cylinders 3

No. of Cranks 3

Dia. of Cylinders 13"-2 1/2"-35" Length of Stroke 24" Revs. per minute

Dia. of Screw shaft as per rule 2 1/2" Material of screw shaft Iron

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 Yes

If two liners are fitted, is the shaft lapped or protected between the liners Yes Length of stern bush 36"

Dia. of Tunnel shaft as per rule 6 1/4" Dia. of Crank shaft journals as per rule 4 1/8"

Dia. of Crank pin 4 1/4" Size of Crank webs 4 3/4" x 1 1/4" Dia. of thrust shaft under collars 4 1/2" Dia. of screw 9'-0" Pitch of Screw 10'-6" No. of Blades 4 State whether moveable No Total surface 31 sq ft

No. of Feed pumps 1 Diameter of ditto 2 1/2" Stroke 14 1/4" Can one be overhauled while the other is at work Yes

No. of Bilge pumps 1 Diameter of ditto 2 1/2" Stroke 14 1/4" Can one be overhauled while the other is at work Yes

No. of Donkey Engines 1 Sizes of Pumps 6" x 4 1/4" x 6" No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room Two 2 1/2" One forward & one aft In Holds, &c. One 2 1/2" to forehold, one 2 1/2" to side room, one 2 1/2" to fore hold well, one 2 1/2" to aft hold well. Equal suction from all bilges with discharge on deck.

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 3" dia.

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 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 Hold 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

Dates of examination of completion of fitting of Sea Connections 29.10.13 of Stern Tube 29.10.13 Screw shaft and Propeller 29.10.13

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

OILERS, &c.—(Letter for record S.) Manufacturers of Steel Phoenix Oil. Heilmann Union of Heilmann

Total Heating Surface of Boilers 1250 sq ft Is Forced Draft fitted No No. and Description of Boilers One cyl. multi. simple mtd.

Working Pressure 200 lbs. Tested by hydraulic pressure to 400 lbs. Date of test 9.12.13 No. of Certificate 2041.

Can each boiler be worked separately Yes Area of fire grate in each boiler 43 sq ft No. and Description of Safety Valves to each boiler Two Spring

Area of each valve 4.9 sq ft Pressure to which they are adjusted 205 lbs. Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork 6" Mean dia. of boilers 12'-6" Length 10'-3" Material of shell plates S

Thickness 1 1/8" Range of tensile strength 29 tons Are the shell plates welded or flanged No Descrip. of riveting: cir. seams 20. P. L.

long. seams 20. B. S. Y. P. Diameter of rivet holes in long. seams 1 1/8" Pitch of rivets 4 1/2" Lap of plates or width of butt straps 14"

Per centages of strength of longitudinal joint rivets 86.16 Working pressure of shell by rules 204 lbs. Size of manhole in shell 16" x 12"

plate 85.24 No. and Description of Furnaces in each boiler 3 plain Material S. Outside diameter 36"

Length of plain part top 6'-4 1/2" Thickness of plates crown 13" Description of longitudinal joint Weld No. of strengthening rings 0

bottom 16" Working pressure of furnace by the rules 232 lbs. Combustion chamber plates: Material S. Thickness: Sides 11" Back 11" 3" Top 11" 3" Bottom 11"

Pitch of stays to ditto: Sides 9 1/4" x 8" Back 8" x 10" Top 8" x 8 1/2" x 10" If stays are fitted with nuts or riveted heads Yes Working pressure by rules 220 lbs.

Material of stays S. Diameter at smallest part 2.4" Area supported by each stay 92 sq ft Working pressure by rules 234 lbs. End plates in steam space:

Material S. Thickness 1 1/2" Pitch of stays 16 1/2" x 14" How are stays secured B. S. Y. P. Working pressure by rules 226 lbs. Material of stays S.

Diameter at smallest part 6.48" Area supported by each stay 280.5 sq ft Working pressure by rules 236 lbs. Material of Front plates at bottom S.

Thickness 1" Material of Lower back plate S. Thickness 1 1/2" Greatest pitch of stays 13" x 8" Working pressure of plate by rules 200 lbs.

Diameter of tubes 3 1/2" Pitch of tubes 4 3/4" x 5" Material of tube plates S. Thickness: Front 1" Back 1" Mean pitch of stays 9 1/2"

Pitch across wide water spaces 13 3/4" Working pressures by rules 202 lbs. Girders to Chamber tops: Material S. Depth and

thickness of girder at centre 10"-1 1/2" Length as per rule 2'-9 3/8" Distance apart 8 1/2" Number and pitch of stays in each 3-8"-10"

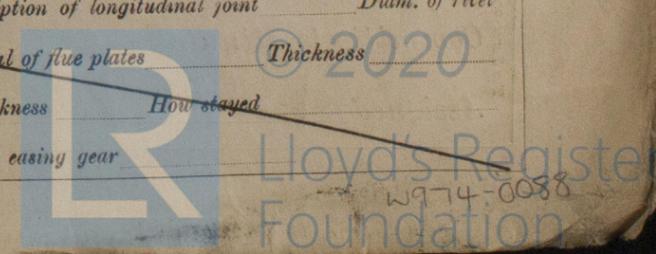
Working pressure by rules 220 lbs. Superheater or Steam chest; how connected to boiler Can the superheater be shut off and the boiler worked

separately Diameter Length Thickness of shell plates Material Description of longitudinal joint Diam. of rivet

holes Pitch of rivets Working pressure of shell by rules Diameter of flue Material of flue plates Thickness

If stiffened with rings Distance between rings Working pressure by rules End plates: Thickness How stayed

Working pressure of end plates Area of safety valves to superheater Are they fitted with easing gear



IS A DONKEY BOILER FITTED? *No.*

If so, is a report now forwarded? *Y.*

SPARE GEAR. State the articles supplied:—

Two each top & bottom end connecting rod bolts & nuts, two main bearing bolts & nuts, one set of coupling bolts & nuts, one set each side & bilge pump valves, set of various sizes, a quantity of assorted bolts, nuts etc.

The foregoing is a correct description,

p. pro CHARLES D. HOLMES & Co. LTD.

Harold Shuard DIRECTOR.

Manufacturer.

Dates of Survey while building { During progress of work in shops - - } 1913: Oct 22, 24, 29, 31. Nov 11, 14, 20, 26, 27, 28. Dec 4, 9, 11, 15, 17, 24. 1914: Jan 2, 3, 7.
{ During erection on board vessel - - - } Jan 9, 16
{ Total No. of visits } 21

Is the approved plan of main boiler forwarded herewith *Ref. 27083 s/s Onyx.*

Dates of Examination of principal parts—Cylinders 27.11.13 Slides 17.12.13 Covers 17.12.13 Pistons 15.12.13 Rods 15.12.13
Connecting rods 4.12.13 Crank shaft 11.12.13 Thrust shaft 15.12.13 Tunnel shafts *Y* Screw shaft 24.10.13 Propeller 24.10.13
Stern tube 24.10.13 Steam pipes tested 3.1.14 Engine and boiler seatings 29.10.13 Engines holding down bolts 24.12.13
Completion of pumping arrangements 9.1.14 Boilers fixed 7.1.14 Engines tried under steam 7.1.14.
Main boiler safety valves adjusted 7.1.14. Thickness of adjusting washers *Forward 3/8" aft 3/8"*
Material of Crank shaft *Iron* Identification Mark on Do. *1093762* Material of Thrust shaft *Steel* Identification Mark on Do. *1093762*
Material of Tunnel shafts *Y* Identification Marks on Do. *Y* Material of Screw shafts *Iron* Identification Marks on Do. *1093762*
Material of Steam Pipes *Solid drawn copper.* Test pressure *400 lbs. per sq. inch hydraulic.*
Is an installation fitted for burning oil fuel *Y* 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 *Y*

Is this machinery duplicate of a previous case *Yes.* If so, state name of vessel *Siam Hawler "ONYX"*

General Remarks (State quality of workmanship, opinions as to class, &c. *The engines & boiler of this vessel have been constructed under special survey in accordance with the Rules. The materials & workmanship are sound & good. The boiler tested by hydraulic pressure & with the engines secured on board & tested under steam they are now in good order & safe working condition & respectfully submitted as being eligible in my opinion to be classed with the notations of T.L.M.C. 1.14 in the Register Book.*

On account of propeller fouling moving chain of dudger at St. Andrews Dock, Nairn, this vessel was placed upon Earle's Slipway for examination.

Found the after end of screw shaft times slightly scored & chafed & it was recommended that the spare shaft should be fitted at the Glasgow yard, & the times on the present shaft renewed. The times is tight in the propeller boss & its present condition does not affect the safe working of the vessel.

It is submitted that this vessel is eligible for THE RECORD. + L.M.C. 1.14.

The amount of Entry Fee ... £ 1 : 0 :
Special ... £ 11 : 5 :
Donkey Boiler Fee ... £ : :
Travelling Expenses (if any) £ : 4/1 :

When applied for, 26-1-1914
When received, 30/1/1914

J.W.D. 27/1/14
F.L. Stanger
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute *FRI. JAN. 30. 1914*
Assigned *+ L.M.C. 1.14*

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

MACHINERY CERTIFICATE
WRITTEN

