

# REPORT ON MACHINERY

No. 27359

Received at London Office

1914

Date of writing Report 10 When handed in at Local Office 14.4.14 Port of Hull.

No. in Survey held at Hull. Date, First Survey Jan 12<sup>th</sup> Last Survey Apr 1<sup>st</sup> 1914

Reg. Book. 140245 on the Ship S.C.K. "SIR MARK SYKES" (Number of Visits 20)

Master Built at Selby. By whom built Cochran & Sons Ltd. Tons Gross 307 Net 124

Engines made at } By whom made } when made 1914

Boilers made at } Hull. By whom made } Messrs. Charles D. Adams & Co. Ltd. when made 1914

Registered Horse Power Owners, Pitman & Mademoiselle, Ltd. Port belonging to Hull.

Nom. Horse Power as per Section 28 87 9/4 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"-23"-37" Length of Stroke 26" Revs. per minute Dia. of Screw shaft as per rule 7.88" Material of screw shaft as fitted 8 1/2" 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 30"

Dia. of Tunnel shaft as per rule 7.04" Dia. of Crank shaft journals as per rule 7.39" Dia. of Crank pin 4 1/2" Size of Crank webs 14 1/2" x 4 1/2" Dia. of thrust shaft under collars 4 1/2" Dia. of screw 9"-4 1/2" Pitch of Screw 11-0" No. of Blades 4 State whether moveable No Total surface 33 sq ft

No. of Feed pumps 1 Diameter of ditto 2 3/8" Stroke 14 3/4" Can one be overhauled while the other is at work Yes

No. of Bilge pumps 1 Diameter of ditto 2 3/8" Stroke 14 3/4" Can one be overhauled while the other is at work Yes

No. of Donkey Engines 1 Sizes of Pumps 6" x 4 1/2" x 6" No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room Two 2" on forward, one aft. In Holds, &c. One 2" in fore hold, one 2" in main hold, one 2" in starboard hold. Epilator suction from all bilges with discharge on deck

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

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 pipes 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 28.1.14 of Stern Tube 28.1.14 Screw shaft and Propeller 28.1.14

Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door No worked from No

**BOILERS, &c.**—(Letter for record S) Manufacturers of Steel Phoenix Works, Leeds of Heald

Total Heating Surface of Boilers 14400 Is Forced Draft fitted No No. and Description of Boilers One up. mult. single ended.

Working Pressure 200 lbs. Tested by hydraulic pressure to 400 lbs. Date of test 25.2.14 No. of Certificate 2061.

Can each boiler be worked separately Yes Area of fire grate in each boiler 48 sq ft No. and Description of Safety Valves to each boiler Two Spring Area of each valve 4.90" 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 6" Mean dia. of boiler 13'-9" Length 10'-6" Material of shell plates S

Thickness 1 3/4" Range of tensile strength 29/025 Are the shell plates welded or flanged No Descrip. of riveting: cir. seams 20.8.2. long. seams 20.8.2. Diameter of rivet holes in long. seams 1 3/32" Pitch of rivets 8 1/2" Lap of plates or width of butt straps 18"

Per centages of strength of longitudinal joint rivets 88.9 plate 85 Working pressure of shell by rules 202 Size of manhole in shell 16" x 12"

Size of compensating ring 4' x 1 1/4" No. and Description of Furnaces in each boiler 3 Plain Material S Outside diameter 3'-4"

Length of plain part top 6'-6 1/2" Thickness of plates crown 13" Description of longitudinal joint Welded No. of strengthening rings 0 bottom 16"

Working pressure of furnace by the rules 206 Combustion chamber plates: Material S Thickness: Sides 3/4" Back 3/32" Top 3/4" Bottom 3/4"

Pitch of stays to ditto: Sides 10" x 8" Back 8 1/2" x 9 3/8" Top 11" x 8" If stays are fitted with nuts or riveted heads Yes Working pressure by rules 214

Material of stays S Diameter at smallest part 2 3/4" Area supported by each stay 86.40 Working pressure by rules 215 End plates in steam space:

Material S Thickness 1 3/32" Pitch of stays 18 1/2" x 18 1/2" How are stays secured D. J. & W. Working pressure by rules 205 Material of stays S

Diameter at smallest part 7.50" Area supported by each stay 342.25 Working pressure by rules 228 Material of Front plates at bottom S

Thickness 1 5/16" Material of Lower back plate S Thickness 1 5/16" Greatest pitch of stays 13 3/4" x 9 3/8" Working pressure of plate by rules 212

Diameter of tubes 3 1/2" Pitch of tubes 4 7/8" x 4 7/8" Material of tube plates S Thickness: Front 1 5/16" Back 3/8" Mean pitch of stays 9 3/8"

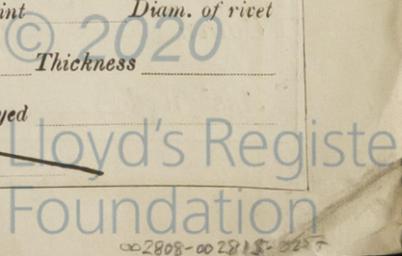
Pitch across wide water spaces 14" x 14" Working pressures by rules 200 Girders to Chamber tops: Material S Depth and thickness of girder at centre 11" - 1 3/4" Length as per rule 3'-0 3/32" Distance apart 11" Number and pitch of stays in each 3-8"

Working pressure by rules 201 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?

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, iron of various sizes, a quantity of assorted bolts, nuts etc.*

The foregoing is a correct description,  
p. pro CHARLES D. HOLMES & Co. LTD.

*Charles Holmes* DIRECTOR.

Manufacturer.

Dates of Survey while building { During progress of work in shops -- } *1914:— Jan 12. 14. 15. 21. 27. 28. 29. Feb 4. 6. 10. 12. 16. 17. 21. 25 Mar 3. 19. 23. 25*  
{ During erection on board vessel --- } *Apr 1.*  
Total No. of visits *20*

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

" " " " " " *yes*

Dates of Examination of principal parts—Cylinders *4.2.14* Slides *3.3.14* Covers *3.3.14* Pistons *25.2.14* Rods *25.2.14*

Connecting rods *3.3.14* Crank shaft *16.2.14* Thrust shaft *25.2.14* Tunnel shafts  Screw shaft *15.1.14* Propeller *15.1.14*

Stern tube *15.1.14* Steam pipes tested *23.3.14* Engine and boiler seatings *28.1.14* Engines holding down bolts *23.3.14*

Completion of pumping arrangements *1.4.14* Boilers fixed *25.3.14* Engines tried under steam *25.3.14*

Main boiler safety valves adjusted *25.3.14* Thickness of adjusting washers *Forward  $\frac{5}{16}$ " aft.  $\frac{5}{16}$ "*

Material of Crank shaft *Steel* Identification Mark on Do. *1109762* Material of Thrust shaft *Steel* Identification Mark on Do. *1109762*

Material of Tunnel shafts  Identification Marks on Do.  Material of Screw shafts *Iron* Identification Marks on Do. *1109762*

Material of Steam Pipes *Solid drawn copper* Test pressure *400 lb. per sq. inch hydraulic*

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 *No.* If so, state name of vessel

General Remarks (State quality of workmanship, opinions as to class, &c.) *The engines & boiler of this vessel have been examined 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 & started under steam they are now in good order & safe working condition & are submitted as being eligible in my opinion to be classed with the notation of "LMC 4. 14" in the Register Book.*

It is submitted that  
this vessel is eligible for  
THE RECORD. + LMC 4. 14.

*J.W.D.*  
*17/4/14*

The amount of Entry Fee ... £ *13.0.0*  
Special ... £ *2.0.0*  
Donkey Boiler Fee ... £ *4.0.0*  
Travelling Expenses (if any) £ *4.0.0*

When applied for, *15/4/1914*  
When received, *30/4/1914*

*H. D. D. D.*  
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute

FRI. APR. 17. 1914

Assigned

*+ LMC 4. 14*

MACHINERY CERTIFICATE  
WRITTEN.



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Foundation

Certificate (if required) to be sent to *Spence*

The Surveyors are requested not to write on or below the space for Committee's Minute.