

# REPORT ON MACHINERY.

No. 27373

Received at London Office SAT. APR. 18. 1914

Date of writing Report

When handed in at Local Office

17.4 to 14 Port of Hull

No. in Survey held at Reg. Book.

Hull

Date, First Survey

Dec. 4

Last Survey

April 9 1914

(Number of Visits 22)

52 cwt. on the Hull Sc. K. "DOCTOR LEE"

Tons Gross 307 Net 124

Master Built at

Sully

By whom built Cochrane & Sons Ltd.

When built 1914

Engines made at

By whom made

when made 1914

Boilers made at

Hull

By whom made Messrs. Charles W. Adams & Co. Ltd.

When made 1914

Registered Horse Power

Owners Puffin's Halden's S. J. Co. Ltd. Port belonging to Hull

Nom. Horse Power as per Section 28 814

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"-34" Length of Stroke 26" Revs. per minute

Dia. of Screw shaft as per rule 7.88" 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

liners are fitted, is the shaft lapped or protected between the liners

Length of stern bush 36"

Dia. of Tunnel shaft as per rule 4.04" Dia. of Crank shaft journals as per rule 4.39"

Dia. of Crank pin 7 1/2" Size of Crank webs 4 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 moceable No Total surface 33 sq ft

No. of Feed pumps 1 Diameter of ditto 2 5/8" Stroke 14 3/4" Can one be overhauled while the other is at work

No. of Bilge pumps 1 Diameter of ditto 2 5/8" Stroke 14 3/4" Can one be overhauled while the other is at work

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" one forward & one aft. In Holds, &c One 2" 1/2 forward, one 2" 1/2 main hold, one 2" 1/2 stow hold. Bilge suction from all bilges with discharge on deck

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

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 0"

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 28.1.14 of Stern Tube 28.1.14 Screw shaft and Propeller 28.1.14

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

## BOILERS, &c.—(Letter for record S) Manufacturers of Steel Phoenix & Co. Ltd. of London

Total Heating Surface of Boilers 1440 sq ft Is Forced Draft fitted No. No. and Description of Boilers One cyl. mult. simple in dia.

Working Pressure 200 lbs. Tested by hydraulic pressure to 400 lbs. Date of test 3.3.14 No. of Certificate 2064

Can each boiler be worked separately 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 boilers 13.9" Length 10.6" Material of shell plates S

Thickness 1 1/4" Range of tensile strength 29 tons. 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 1/4" 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 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" bottom 6.6 1/2" Thickness of plates crown 13" bottom 16" Description of longitudinal joint Weld. No. of strengthening rings 0

Working pressure of furnace by the rules 206 Combustion chamber plates: Material S. Thickness: Sides 3/4" Back 3/2" Top 3/4" Bottom 3/4"

Pitch of stays to ditto: Sides 10" x 8" Back 8 1/2" x 9 1/2" Top 11" x 8" If stays are fitted with nuts or riveted heads Yes Working pressure by rules 217

Material of stays S. Diameter at smallest part 2.075" 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 To. 7. 8. 10. Working pressure by rules 205 Material of stays S

Diameter at smallest part 7.50" Area supported by each stay 342.250" Working pressure by rules 228 Material of Front plates at bottom S

Thickness 15" Material of Lower back plate S. Thickness 15" Greatest pitch of stays 13 3/4" x 9 3/4" Working pressure of plate by rules 212

Diameter of tubes 3 1/2" Pitch of tubes 4 1/2" x 4 1/2" Material of tube plates S. Thickness: Front 15" Back 8" Mean pitch of stays 9 5/8"

Pitch across wide water spaces 14" 8 lbs. 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 1/2" Distance apart 11" Number and pitch of stays in each 3-8"

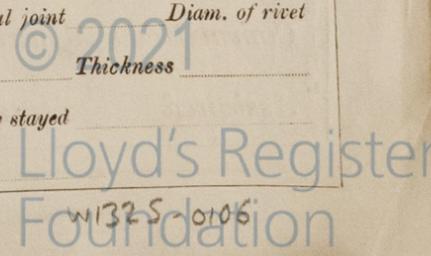
Working pressure by rules 201. Superheater or Steam chest; how connected to boiler Can the superheater be shut off and the boiler worked

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 and connecting rod bolts, 2 nuts, two main bearing bolts & nuts, one set of coupling bolts & nuts, one set each feed & 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.

*Arthur Holmes*

DIRECTOR.

Manufacturer.

Dates of Survey while building { During progress of work in shops - - } *1913: Dec 4, 1914: Jan 12, 14, 21, 27, 28, 29 Feb 4, 6, 10, 12, 16, 21, 25, Mar 3, 9, 12, 23, 26, 27*  
{ During erection on board vessel - - - } *Apr 3, 9*  
Total No. of visits *22*

Is the approved plan of main boiler forwarded herewith *with Plan 27354*

" " " *donkey* " " " *Sir Mark Sykes*

Dates of Examination of principal parts—Cylinders *12.2.14* Slides *12.3.14* Covers *12.3.14* Pistons *3.3.14* Rods *3.3.14*  
Connecting rods *9.3.14* Crank shaft *25.2.14* Thrust shaft *25.2.14* Tunnel shafts *-* Screw shaft *21.1.14* Propeller *21.1.14*  
Stern tube *21.1.14* Steam pipes tested *24.3.14* Engine and boiler seatings *28.1.14* Engines holding down bolts *27.3.14*  
Completion of pumping arrangements *9.4.14* Boilers fixed *3.4.13* Engines tried under steam *3.4.14*  
Main boiler safety valves adjusted *3.4.14* Thickness of adjusting washers *Forward 3/8" aft 1/16"*  
Material of Crank shaft *Steel* Identification Mark on Do. *110 T.G.D.* Material of Thrust shaft *Steel* Identification Mark on Do. *110 T.G.D.*  
Material of Tunnel shafts *-* Identification Marks on Do. *-* Material of Screw shafts *Iron* Identification Marks on Do. *110 T.G.D.*  
Material of Steam Pipes *Solid drawn copper* Test pressure *400 lbs. 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. *Yes.* If so, state name of vessel *S/S "SIR MARK SYKES"*

General Remarks (State quality of workmanship, opinions as to class, &c. *The engine & 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 engine run 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 notation of i.l.m.c. 4.14 in the Register of Ports.*

It is submitted that this vessel is eligible for THE RECORD. + LMC 4.14.

*J.W.D.*  
*20/4/14*

*Arthur Holmes*  
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

The amount of Entry Fee ... £ *1 : 0* :  
Special ... £ *13 : 1* :  
Donkey Boiler Fee ... £ : :  
Travelling Expenses (if any) £ *4/1* : :  
When applied for, *17.4.1914*  
When received, *20/4/14*

Committee's Minute TUE. APR. 21. 1914  
Assigned *+ LMC 4.14*

MACHINERY CERTIFICATE WRITTEN.

These par  
Signal Letter

Official Nu

*136,1*

No., Date, and P  
Whether British  
Foreign Built.

British

Number of Deck  
Number of Mast  
Rigged ...  
Stern ...  
Build ...  
Galleries ...  
Head ...  
Framework and  
vessel ...  
Number of Bulkh  
Number of water  
and their capac

Total to quarter the depth  
to bottom of keel ...

No of  
sets of  
Engines.

Description  
*Triple exp  
direct act  
inverted*

No. of  
Shafts.  
Particulars  
Description  
Number  
Iron or Steel  
Loaded Pressure

One

GRO  
Under Tonnage Dec  
Space or spaces bet  
Turret or Trunk ...  
Forecastle ...  
Bridge space ...  
Poop or Break ...  
Side Houses ...  
Deck Houses ...  
Chart House ...  
Spaces for machinery  
Section 78 (2) of th  
1894 ...  
Excess of Hatchways

Gross Tonna  
Deductions, as per Co  
Registered T

NOTE 1.—The tonnage of  
Deck for prop

NOTE 2.—The underment  
*Open fo*

*less conta*

Name of Mast

No. of Owners  
Name, Residence, and

*Pickering*  
whose princ  
in the city an

Manager:—

Dated *26th*

(830) (69862) Wt. 28981/72



Certificate (if required) to be sent to.

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