

# REPORT ON MACHINERY.

No. 24547  
THU. JUN. 4-1914

Received at London Office

Date of writing Report 19 When handed in at Local Office *May 28<sup>th</sup> 1914* Port of *Hull*  
 No. in Survey held at *Hull* Date, First Survey *Feb 12<sup>th</sup>* Last Survey *May 25 1914*  
 Reg. Book. *131* on the *SS. K. "ADMIRAL CRADOCK"* *Charter* (Number of Visits *23*)  
 Master *Sully* Built at *Sully* By whom built *Cochran & Sons Ltd.* Tons { Gross *295*  
 Engines made at } By whom made } when made *1914*  
 Boilers made at } *Hull* By whom made } *Thomas, Charles & Co. Ltd.* when made *1914*  
 Registered Horse Power *84* Owners *Puffinry & Haldenby S. & Co. Ltd.* Port belonging to *Hull*  
 Nom. Horse Power as per Section 28 *84* Is Refrigerating Machinery fitted for cargo purposes *No.* Is Electric Light fitted *No.*

ENGINES, &c.—Description of Engines *Simple Expansion* No. of Cylinders *3* No. of Cranks *3*  
 Dia. of Cylinders *13"-23"-34"* Length of Stroke *26"* Revs. per minute *1048* Dia. of Screw shaft *4 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 *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 *4 1/2"* Dia. of Crank shaft journals *4 3/4"* Dia. of Crank pin *4 1/2"* Size of Crank webs *4 3/4" x 1 1/2"* Dia. of thrust shaft under collars *1 1/2"* Dia. of screw *2 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 1/2"* Can one be overhauled while the other is at work *No*  
 No. of Bilge pumps *1* Diameter of ditto *2 3/8"* Stroke *14 1/2"* Can one be overhauled while the other is at work *No*  
 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 *Wood - on forward 2 on aft* In Holds, &c. *One 2" on fore hold, one 2" on main hold, one 2" on starboard well, & one on suction from all bilges with discharge on deck*  
 No. of Bilge Injections *1* sizes *3"* Connected to condenser, or to circulating pump *Yes* Is a separate Donkey Suction fitted in Engine room & size *3" diameter*  
 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 *24.3.14* of Stern Tube *24.3.14* Screw shaft and Propeller *24.3.14*  
 Is the Screw Shaft Tunnel watertight *Yes* Is it fitted with a watertight door *Yes* worked from *No*

OILERS, &c.—(Letter for record *S.*) Manufacturers of Steel *Phoenix Iron Works of Leeds*  
 Total Heating Surface of Boilers *1440 sq ft* Is Forced Draft fitted *No.* No. and Description of Boilers *One cyl. mult. single ended*  
 Working Pressure *200 lbs.* Tested by hydraulic pressure to *400 lbs.* Date of test *31.3.14* No. of Certificate *2043*  
 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 *4.9 sq in* 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 *7 1/2"* 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 *D. B. S. J. P.*  
 Long. seams *D. B. S. J. P.* Diameter of rivet holes in long. seams *1 1/2"* Pitch of rivets *8 1/2"* Lap of plates or width of butt straps *18"*  
 Percentages of strength of longitudinal joint: rivets *88.9* Working pressure of shell by rules *202 lbs.* Size of manhole in shell *16" x 12"*  
 Size of compensating ring *7' 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'* Thickness of plates: crown *1 1/2"* bottom *1 1/4"* 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 *3/4"* Top *3/4"* Bottom *3/4"*  
 Pitch of stays to ditto: Sides *10" x 8"* Back *8 1/2" x 9 1/2"* Top *8" x 11 1/2"* If stays are fitted with nuts or riveted heads *Yes* Working pressure by rules *214*  
 Material of stays *S.* Diameter at smallest part *2.070* Area supported by each stay *86.40* Working pressure by rules *215* End plates in steam space: Material *S.* Thickness *1 1/2"* Pitch of stays *18 1/2" x 18 1/2"* How are stays secured *D. B. S. J. P.* Working pressure by rules *205* Material of stays *S.*  
 Diameter at smallest part *4.50* Area supported by each stay *342.250* Working pressure by rules *228* Material of Front plates at bottom *S.*  
 Thickness *1 1/2"* Material of Lower back plate *S.* Thickness *1 1/2"* Greatest pitch of stays *13 3/4" x 9 1/2"* 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 *1 1/2"* Back *1 1/4"* Mean pitch of stays *9 5/8"*  
 Pitch across wide water spaces *14" 2 db.* 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 *2' 0 3/4"* 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 *No* Can the superheater be shut off and the boiler worked separately *No*  
 Diameter *No* Length *No* Thickness of shell plates *No* Material *No* Description of longitudinal joint *No* Diam. of rivet *No*  
 Pitch of rivets *No* Working pressure of shell by rules *No* Diameter of flue *No* Material of flue plates *No* Thickness *No*  
 Stiffened with rings *No* Distance between rings *No* Working pressure by rules *No* End plates: Thickness *No* How stayed *No*  
 Working pressure of end plates *No* Area of safety valves to superheater *No* Are they fitted with easing gear *No*

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, 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 - - - } 1914:— Feb 12, 16, 21, 25 Mar 3, 9, 12, 13, 23, 24, 26, 31, Apr 6, 18, 24, 27 May 4, 8.  
{ During erection on board vessel - - - } May 19, 20, 21, 23, 25.  
Total No. of visits *23.* Is the approved plan of main boiler forwarded herewith *yes*

Dates of Examination of principal parts—Cylinders *25.2.14* Slides *31.3.14* Covers *31.3.14* Pistons *23.3.14* Rods *23.2.14*  
Connecting rods *26.2.14* Crank shaft *9.3.14* Thrust shaft *8.5.14* Tunnel shafts - Screw shaft *9.3.14* Propeller *9.3.14*  
Stern tube *9.2.14* Steam pipes tested *19.5.14* Engine and boiler seatings *24.3.14* Engines holding down bolts *19.5.14*  
Completion of pumping arrangements *19.5.14* Boilers fixed *19.5.14* Engines tried under steam *21.5.14*  
Main boiler safety valves adjusted *21.5.14* Thickness of adjusting washers *FV 1/2 1/16" AV 1/8"*

Material of Crank shaft *S.* Identification Mark on Do. *1118*. Material of Thrust shaft *S* Identification Mark on Do. *1118*.  
Material of Tunnel shafts Identification Marks on Do. Material of Screw shafts *S* Identification Marks on Do. *1118*.

Material of Steam Pipes *Copper solid drawn.* Test pressure *400 lbs.*  
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 engines and boiler of this vessel have been constructed under special survey in accordance with the Rules. The materials and workmanship are found and good. The boiler tested by hydraulic pressure and with the engines secured on board and tested under steam they are now in good order and safe-working condition respectfully submitted as being eligible in my opinion to be classed with the notation of +LMC 5.14 in the Register book.*

It is submitted that this vessel is eligible for THE RECORD. + LMC 5.14.

*JWD* 7/6/14 *JRS*

The amount of Entry Fee ... £ 1 : 0 :  
Special ... £ 13 : 1 :  
Donkey Boiler Fee ... £ : :  
Travelling Expenses (if any) £ : 8/2 :  
When applied for, 3/6/1914  
When received, 30/6/1914

*J. G. Mackillop*  
Engineer-Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute  
Assigned + LMC 5.14

MACHINERY CERTIFICATE WRITTEN

Null certificate (if required) to be sent to.

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