

# REPORT ON MACHINERY.

No. 27083

Date of writing Report 12-1-14 When handed in at Local Office 12-1-14 Port of Hull Received at London Office TUE. JAN. 13. 1914

No. in Survey held at Hull Date, First Survey Sep. 30<sup>th</sup> Last Survey Jan. 5<sup>th</sup> 1914  
 Reg. Book. 26 sub. on the Steel S.S.K. "ONYX" (Number of Visits 23)

Master Selley Built at Selley By whom built Cochrane & Sons Ltd. Tons Gross 248  
Net 98  
 Engines made at Hull By whom made Messrs. Charles D. Holmes & Co. Ltd. When built 1913  
 Boilers made at Hull By whom made Messrs. Charles D. Holmes & Co. Ltd. when made 1913  
 Registered Horse Power 45 Owners Anglo-Siam Steam Navigation 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 448 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 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 6.44 Dia. of Crank shaft journals 4.08 Dia. of Crank pin 4 1/2" Size of Crank webs 4 1/2" x 14" 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 4 Total surface 31 1/2  
 No. of Feed pumps 1 Diameter of ditto 2 1/2" Stroke 14 1/2" Can one be overhauled while the other is at work Yes  
 No. of Bilge pumps 1 Diameter of ditto 2 1/2" Stroke 14 1/2" 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 1/2" One forward & one aft. In Holds, &c. One 2 1/2" to fore hold, one 2 1/2" to fish room, one 2 1/2" to fore dust well, one 2 1/2" to aft dust well. Ejector suction from all bilges with discharge on deck.  
 No. of Bilge Injections 1 sizes 3 1/2" Connected to condenser, or to circulating pump Yes Is a separate Donkey Suction fitted in Engine room of size 3" ejector  
 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 Yes  
 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 Yes

**BOILERS, &c.**—(Letter for record S) Manufacturers of Steel Phoenix A.S. Höpfer & Söhne of Hörde  
 Total Heating Surface of Boilers 1250 sq ft Is Forced Draft fitted No No. and Description of Boilers One up. mult. on fl. indid.  
 Working Pressure 200 lbs. Tested by hydraulic pressure to 400 lbs. Date of test 24.11.13 No. of Certificate 2034  
 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 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 6" Mean dia. of boilers 17-6" Length 10-3" Material of shell plates S  
 Thickness 1 1/2" Range of tensile strength 29 tons Are the shell plates welded or flanged No Descrip. of riveting: cir. seams 20.9.2.  
 long. seams R.B.S. 19 Diameter of rivet holes in long. seams 1 1/8" Pitch of rivets 4 5/8" 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"  
 Size of compensating ring 7" x 1 1/8" 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  
 Working pressure of furnace by the rules 232 lbs. Combustion chamber plates: Material S Thickness: Sides 11" Back 11 3/4" Top 11 3/4" Bottom 11"  
 Pitch of stays to ditto: Sides 9 1/2" x 8" Back 8" x 10" Top 8" x 8 1/2" 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 sq in Area supported by each stay 92 sq in 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 R.B.S.W. Working pressure by rules 226 lbs. Material of stays S  
 Diameter at smallest part 6.48 sq in Area supported by each stay 280.5 sq in Working pressure by rules 236 lbs. Material of Front plates at bottom S  
 Thickness 1" Material of Lower back plate S Thickness 15" 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 7/8" Mean pitch of stays 9 1/2"  
 Pitch across wide water spaces 13 1/2" 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" x 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  
 Pitch of rivets Working pressure of shell by rules Diameter of flue Material of flue plates Thickness  
 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

W1255-0247

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 & nuts, two main bearing bolts & nuts, one set of coupling bolts & nuts, one set each of 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  
*Harold Sheardron* DIRECTOR. Manufacturer.

Dates of Survey while building: During progress of work in shops -- 1913:— Sep 30, Oct 2, 13, 15, 18, 22, 24, 28, 29, 31 Nov 6, 11, 14, 20, 24, 26, 27 Dec 4  
 During erection on board vessel --- Dec. 11, 12, 16, 22 1914: Jan 5  
 Total No. of visits 23. Is the approved plan of main boiler forwarded herewith *yes*  
 " " " donkey " " "

Dates of Examination of principal parts—Cylinders *14.11.13* Slides *4.12.13* Covers *4.12.13* Pistons *20.11.13* Rods *26.11.13*  
 Connecting rods *26.11.13* Crank shaft *26.11.13* Thrust shaft *20.11.13* Tunnel shafts *✓* Screw shaft *18.10.13* Propeller *18.10.13*  
 Stern tube *18.10.13* Steam pipes tested *12.12.13* Engine and boiler seatings *29.10.13* Engines holding down bolts *11.12.13*  
 Completion of pumping arrangements *22.12.13* Boilers fixed *18.12.13* Engines tried under steam *16.12.13*  
 Main boiler safety valves adjusted *18.12.13* Thickness of adjusting washers *Forward  $\frac{3}{8}$ " aft  $\frac{3}{8}$ "*  
 Material of Crank shaft *Iron* Identification Mark on Do. *109274D* Material of Thrust shaft *Steel* Identification Mark on Do. *109274D*  
 Material of Tunnel shafts *Y* Identification Marks on Do. *✓* Material of Screw shafts *Iron* Identification Marks on Do. *109274D*  
 Material of Steam Pipes *Solid drawn copper* Test pressure *400 lbs. per sq. inch by 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 constructed under special survey in accordance with the Rules. The materials & workmanship are complete & 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 notation of 'L.M.C. 1-14' in the Register Book.*

It is submitted that this vessel is eligible for THE RECORD. + L.M.C. 1. 14.

*JWD* 15/1/14 *JRSL*

The amount of Entry Fee ... £ 1 : 0 :  
 Special ... £ 11 : 5 :  
 Donkey Boiler Fee ... £ : :  
 Travelling Expenses (if any) £ 4/1 :  
 When applied for, 12/1/14  
 When received, 30/1/14

*Harold Sheardron*  
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute FRI. JAN. 16. 1914

Assigned *+ L.M.C. 1. 14*



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

MACHINERY CERTIFICATE WRITTEN