

# REPORT ON MACHINERY.

No. 14921  
THU. JUN. 25 1914.

Received at London Office

Date of writing Report 20 June 1914 When handed in at Local Office 22/6/14 Port of West Newcastle

No. in Survey held at West Newcastle Date, First Survey 23<sup>rd</sup> Oct 1913 Last Survey 17<sup>th</sup> June 1914  
Reg. Book. on the Steel Steamer City of Rangoon (Number of Visits 128)

Master J. Mayall Built at West Newcastle By whom built W. Gray & Co  
Tons { Gross 6635  
Net 4272  
When built 1914

Engines made at West Newcastle By whom made Central Marine Engine Works when made 1914

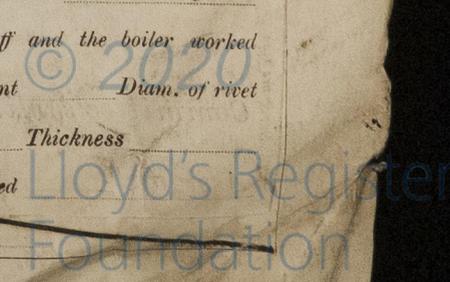
Boilers made at West Newcastle By whom made Central Marine Engine Works when made 1914

Registered Horse Power Owners Ellerman Lines Ltd Port belonging to Liverpool

Nom. Horse Power as per Section 28 617 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

**ENGINES, &c.**—Description of Engines Triple Compound No. of Cylinders Three No. of Cranks 3  
 Dia. of Cylinders 25 1/2, 44 1/2, 77 Length of Stroke 51 Revs. per minute 65 Dia. of Screw shaft as per rule 15.25 Material of screw shaft as fitted 16 1/4  
 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 Length of stern bush 67  
 Dia. of Tunnel shaft as per rule 14.31 Dia. of Crank shaft journals as per rule 15.03 Dia. of Crank pin 15 1/2 Size of Crank webs 21 1/2 Dia. of thrust shaft under collars 15 1/2 Dia. of screw 18.6 Pitch of Screw 17.9 No. of Blades 4 State whether moveable Yes Total surface 115 sq ft  
 No. of Feed pumps Two Diameter of ditto 9 Stroke 21 Can one be overhauled while the other is at work Yes  
 No. of Bilge pumps Two Diameter of ditto 4 1/2 Stroke 30 Can one be overhauled while the other is at work Yes  
 No. of Donkey Engines Three Sizes of Pumps 10 1/2, 10, 6, 10, 8, 9 1/2 No. and size of Suctions connected to both Bilge and Donkey pumps In Engine Room Four 3 1/2 In Holds, &c. Twelve 3 1/2, Ten 3 1/2  
 Circulating Pump 6 M.E.W. Separate Engine  
 No. of Bilge Injections three sizes 9 Connected to condenser, or to circulating pump Yes Is a separate Donkey Suction fitted in Engine room & size Yes 3 1/2  
 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 How are they protected  
 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 9/4/14 of Stern Tube 20/4/14 Screw shaft and Propeller 5/5/14  
 Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from top of stern

**BOILERS, &c.**—(Letter for record S) Manufacturers of Steel J. Phoenix Iron  
 Total Heating Surface of Boilers 8641 Is Forced Draft fitted Yes No. and Description of Boilers Three single headed  
 Working Pressure 220 lb Tested by hydraulic pressure to 440 lb Date of test 17/3/14 No. of Certificate 3360  
 Can each boiler be worked separately Yes Area of fire grate in each boiler 72 sq ft No. and Description of Safety Valves to each boiler Two Spring Area of each valve 11.04 sq in Pressure to which they are adjusted 225 lb Are they fitted with easing gear Yes  
 Smallest distance between boilers or uptakes and bunkers or woodwork 24 Mean dia. of boilers 16.0 Length 12.6 Material of shell plates Mild  
 Thickness 1 1/8 Range of tensile strength 27-30 Are the shell plates welded or flanged both Descrip. of riveting: cir. seams All on top long. seams All on top Diameter of rivet holes in long. seams 1 1/8 Pitch of rivets 10 1/2 Lap of plates or width of butt straps 23 1/2  
 Per centages of strength of longitudinal joint rivets 88.6 plate 84.8 Working pressure of shell by rules 224 lb Size of manhole in shell 16.12  
 Size of compensating ring Flanged ring No. and Description of Furnaces in each boiler 4 Brighton Material Mild Outside diameter 45 1/2  
 Length of plain part top Thickness of plates crown 10/16 Description of longitudinal joint headed No. of strengthening rings Spring  
 Working pressure of furnace by the rules 223 lb Combustion chamber plates: Material Mild Thickness: Sides 11/16 Back 11/16 Top 11/16 Bottom 1  
 Pitch of stays to ditto: Sides 8 3/4, 8 1/2 Back 7 3/4, 7 1/2 Top 8 3/4, 8 1/2 If stays are fitted with nuts or riveted heads No Working pressure by rules 220 lb  
 Material of stays Mild Diameter at smallest part 1 5/8 Area supported by each stay 9 3/4, 7 3/4 Working pressure by rules 260 lb End plates in steam space:  
 Material Mild Thickness 1 1/2 Pitch of stays 10 1/2, 17 How are stays secured All nut Working pressure by rules 221 lb Material of stays Mild  
 Diameter at smallest part 1 5/8 Area supported by each stay 10 1/2, 17 Working pressure by rules 220 lb Material of Front plates at bottom Mild  
 Thickness 1 1/8 Material of Lower back plate Mild Thickness 1 Greatest pitch of stays 10 1/2 Working pressure of plate by rules 220 lb  
 Diameter of tubes 3 1/2 Pitch of tubes 3 3/4 Material of tube plates Mild Thickness: Front 1 1/16 Back 10/16 Mean pitch of stays 7 1/2  
 Pitch across wide water spaces 14 Working pressures by rules 221 lb Girders to Chamber tops: Material Mild Depth and thickness of girder at centre 10 1/2, 1 1/2 Length as per rule 38 1/2 Distance apart 8 3/4 Number and pitch of stays in each Three 8 3/4  
 Working pressure by rules 222 lb 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? *None* ✓

If so, is a report now forwarded? ✓

SPARE GEAR. State the articles supplied:— *Two top end bolts, two bottom end bolts, two main bearing bolts, one cut coupling bolts, one cut dead pump valves, one cut safety pump valves, two propeller blades, one cut 1st piston spring, one slide valve spindle one pair crank pin bushes complete two safety valve springs. Bolts. nuts two of various sizes &c. Also spare gear for 7000 Engine and C.M.E.W. separate circulating pump.*

The foregoing is a correct description,

FOR THE CENTRAL MARINE ENGINE WORKS,

(St. Gray & Co. Ltd.)

*Maureen S. Eids*

Manufacturer.

DIRECTOR.

Dates of Survey while building: During progress of work in shops -- *1913 Oct 23, 27, 28, 30, 31. Nov 3, 4, 6, 7, 10, 11, 12, 13, 14, 17, 20, 21. Dec 3, 5, 8, 9, 10, 11, 12, 13, 15, 16, 17, 18, 19, 22, 23, 24, 29, 30, 31. 1914 Jan 5, 6, 7, 8, 9, 12, 13, 14, 15, 19, 20, 21, 22, 23, 26, 27, 28, 29, 30. Feb 2, 3, 4, 5, 6, 9, 10, 11, 12, 13, 16, 17, 18, 19, 20, 23, 24, 26, 27. Mar 2, 3, 4, 5, 6, 9, 10, 12, 16, 17, 18, 19, 20, 23, 24, 26, 30, 31. Apr 1, 2, 3, 6, 7, 8, 9, 15, 16, 17, 20, 21, 23, 24, 27, 29, 30. May 1, 5, 8, 12, 13, 19, 20, 21, 22, 25, 26, 27, 28, 29. June 3, 5, 8, 12, 17.* Total No. of visits *128.*

Is the approved plan of main boiler forwarded herewith? *Yes*

Dates of Examination of principal parts—Cylinders *20/3/14* Slides *1/4/14* Covers *20/3/14* Pistons *21/3/14* Rods *19/3/14* Connecting rods *19/3/14* Crank shaft *12/3/14* Thrust shaft *12/3/14* Tunnel shafts *27/4/14* Screw shaft *18/3/14* Propeller *9/4/14* Stern tube *7/4/14* Steam pipes tested *at Hargraves* Engine and boiler seatings *20/4/14* Engines holding down bolts *19/5/14* Completion of pumping arrangements *2/6/14* Boilers fixed *21/5/14* Engines tried under steam *3/6/14* Main boiler safety valves adjusted *3/6/14* Thickness of adjusting washers *Pat 25/12 S 12/14. Lub 19/12 S 27/14. 11/14 S 21/14*

Material of Crank shaft *Steel* Identification Mark on Do. *5484* Material of Thrust shaft *Steel* Identification Mark on Do. *5484* Material of Tunnel shafts *Steel* Identification Marks on Do. *5484* Material of Screw shafts *Steel* Identification Marks on Do. *5484* Material of Steam Pipes *Lap welded steel* Test pressure *660 lb*

Is an installation fitted for burning oil fuel? *Yes* 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? ✓ If so, state name of vessel? ✓

General Remarks (State quality of workmanship, opinions as to class, &c.) *Workmanship good. The Bolts of this vessel are fitted with C.M.E.W. Lubrication, as per approved Anti-Siphon, one set fitted in each Boiler upright, and have each a safety valve attached thereto. The installation is so arranged, that either hot or lubricated steam can be used. All the lubrication has been tested by hydraulic pressure to 1440 lb. The steel steam pipes and branch pipes and the lubrication oil valves to 660 lb. and all found good.*

*The propeller bolts tested to 1440 lb and body to 50 lb.*

The machinery and boilers of this steamer have been examined under special survey and placed on board in accordance with the Society's Rules. They are now in my opinion in safe working condition, and the case is respectfully submitted for the ratification + L.M.C. 6.14, in the Register Book.

It is submitted that this vessel is eligible for THE RECORD. + L.M.C. 6.14

The amount of Entry Fee ... £ 3 0 : When applied for, 11/6/1914  
Special ... £ 50 17 :  
Donkey Boiler Fee ... £ : :  
Travelling Expenses (if any) £ : : When received, 24/6/1914

*J.W.D.*  
*Maureen S. Eids*  
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute TUE. JUN. 30. 1914

Assigned *+ L.M.C. 6.14*  
*F.D.*



Rpt. 13.  
Port of  
No. in Reg. Book  
Owners  
Yard No.  
DESCRIP  
Capacity of  
Where is I  
Position of  
Positions of  
If fuses are  
circuits  
If vessel is a  
Are the fuse  
Are all fuses  
are perm  
Are all switch  
Total number  
A  
B  
C  
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E  
If arc lights, w  
Where are the  
DESCRIPTION  
Main cable carry  
Branch cables ca  
Branch cables ca  
Leads to lamps ca  
Cargo light cables  
DESCRIPTION  
Joints in cables, h  
Are all the joints o  
positions, nor  
Are there any join  
How are the cable  
of hatch. wa

Certificate (if necessary) to be sent to  
WEST HARTLEPOOL.