

# REPORT ON MACHINERY.

No. 18256

Received at London Office

WED. JUL 9 1924

Date of Report 26 June 1924 When handed in at Local Office 1st July 1924 Port of Greenock  
 No. of Survey held at Port Glasgow Date, First Survey 31st March, 1920. Last Survey 28th June, 1924  
 Re Book on the single screw steel steamer "LOWANA" (Number of Visits 65)  
 Master Built at Port Glasgow By whom built Dunlop Bremner & Co. Ltd. (No. 343) When built 1924  
 Engines made at Port Glasgow By whom made Dunlop Bremner & Co. Ltd. (No. 343) when made 1924  
 Boilers made at Glasgow By whom made D. Rowan & Co. Ltd. when made 1923  
 Registered Horse Power Owners The Melbourne Steamship Co. Ltd. Port belonging to Melbourne.  
 Nom. Horse Power as per Section 28 362 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines Triple No. of Cylinders 3 No. of Cranks 3  
 Dia. of Cylinders 25" x 41" x 68" Length of Stroke 45" Revs. per minute 40 Dia. of Screw shaft 13.93 as per rule 14.02 as fitted 14 1/2 Material of screw shaft steel  
 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 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 If two liners are fitted, is the shaft lapped or protected between the liners Length of stern bush 58"  
 Dia. of Tunnel shaft as per rule 12.41 as fitted 12 1/2 Dia. of Crank shaft journals as per rule 13.03 as fitted 13 1/4 Dia. of Crank pin 13 1/4 Size of Crank webs 13 1/2 x 8 1/2 Dia. of thrust shaft under collars 13 1/4 Dia. of screw 17.0" Pitch of Screw 17.0" No. of Blades 4 State whether moceable No Total surface 90 ft  
 No. of Feed pumps 2 Diameter of ditto 3 1/2 Stroke 24 Can one be overhauled while the other is at work Yes  
 No. of Bilge pumps 2 Diameter of ditto 4 Stroke 24 Can one be overhauled while the other is at work Yes  
 No. of Donkey Engines Three Sizes of Pumps 5 1/2 x 12 x 12 No. and size of Suctions connected to both Bilge and Donkey pumps  
 In Engine Room 4 @ 3" Tunnel 2 1/2" 5 1/2 x 8 In Holds, &c. 4 @ 3" aft 20 1/2" + 10 3 1/2"  
 No. of Bilge Injections one sizes 8" Connected to condenser, or to circulating pump pump 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  
 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 & below  
 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 None 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  
 Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from upper platform - engine Rm.

BOILERS, &c.—(Letter for record S) Manufacturers of Steel  
 Total Heating Surface of Boilers 5925 Is Forced Draft fitted No No. and Description of Boilers Three single ended  
 Working Pressure 180 lbs/sq. Tested by hydraulic pressure to Date of test No. of Certificate  
 Can each boiler be worked separately Yes Area of fire grate in each boiler 55 ft No. and Description of Safety Valves to each boiler Double Spring loaded Area of each valve 5.94 sq. Pressure to which they are adjusted 185 lbs/sq. Are they fitted with easing gear Yes  
 Smallest distance between boilers or uptakes and bunkers or woodwork 3.0" Mean dia. of boilers Length Material of shell plates  
 Thickness Range of tensile strength Are the shell plates welded or flanged Descrip. of riveting: cir. seams  
 long. seams Diameter of rivet holes in long. seams Pitch of rivets Lap of plates or width of butt straps  
 Per centages of strength of longitudinal joint rivets Working pressure of shell by rules Size of manhole in shell  
 Size of compensating ring for No. and Description of Furnaces in each boiler Material Outside diameter  
 Length of plain part top Thickness of plates crown Description of longitudinal joint No. of strengthening rings  
 bottom Working pressure of furnace by the rules Combustion chamber plates: Material Thickness: Sides Back Top Bottom  
 Pitch of stays to ditto: Sides Back Top If stays are fitted with nuts or riveted heads Working pressure by rules  
 Material of stays Area at smallest part Area supported by each stay Working pressure by rules End plates in steam space:  
 Material Thickness Pitch of stays How are stays secured Working pressure by rules Material of stays  
 Area at smallest part Area supported by each stay Working pressure by rules Material of Front plates at bottom  
 Thickness Material of Lower back plate Thickness Greatest pitch of stays Working pressure of plate by rules  
 Diameter of tubes Pitch of tubes Material of tube plates Thickness: Front Back Mean pitch of stays  
 Pitch across wide water spaces Working pressures by rules Girders to Chamber tops: Material Depth and  
 thickness of girder at centre Length as per rule Distance apart Number and pitch of stays in each  
 Working pressure by rules Steam dome: description of joint to shell % of strength of joint  
 Diameter Thickness of shell plates Material Description of longitudinal joint Diam. of rivet holes  
 Pitch of rivets Working pressure of shell by rules Crown plates Thickness How stayed

SUPERHEATER. Type Date of Approval of Plan Tested by Hydraulic Pressure to  
 Date of Test Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler  
 Diameter of Safety Valve Pressure to which each is adjusted Is Easing Gear fitted

IS A DONKEY BOILER FITTED? No

If so, is a report now forwarded? ✓

SPARE GEAR. State the articles supplied:— Two top-end bolts and nuts, two bottom end bolts and nuts, two main bearing bolts, set of coupling bolts, one set of feed & bilge pump valves, quantity of assorted bolts & nuts, iron of various sizes, one propeller shaft.

The foregoing is a correct description,

JUNLOP, BREMNER & COY., LIMITED

Thos Paton

Manufacturer.

Dates of Survey while building { During progress of work in shops -- 1920 Mar 31-Apr 9-Apr 14-30-Sep 24-Oct 29-Dec 15-27-1921 Jan 12-Mar 14-Apr 5-1922 Feb 9-22-Mar 14-21-31-Apr 11-17-20-24-May 29-16-23-31-June 15-26  
During erection on board vessel -- July 17-Aug 14-Sep 1-1923 Feb 5-Mar 14-22-Apr 11-25-May 7-11-21-29-June 8-12-19-21-July 25-Aug 23-Nov 2-Dec 3-6-28-1924 Jan 31-Apr 22-May 16-19-23  
Total No. of visits June 2-9-11-13-14-16-18-20-25-28 65

Is the approved plan of main boiler forwarded herewith

Dates of Examination of principal parts—Cylinders <sup>HP 11.5.23</sup> <sup>MP 28.12.23</sup> <sup>LP 24.5.23</sup> Slides <sup>HP 21.5.23</sup> <sup>MP 8.6.23</sup> <sup>LP 21.5.23</sup> Covers 11.5.23 Pistons <sup>HP 31.5.23</sup> <sup>MP 8.6.23</sup> <sup>LP 8.6.23</sup> Rods 21.6.23  
Connecting rods 17/4/22 Crank shaft 21.3.22 Thrust shaft 20.4.22 Tunnel shafts 20.4.22 Screw shaft 11.5.23 Propeller 21.5.23  
Stern tube 11.4.23 Steam pipes tested <sup>23.5.24</sup> <sup>13.6.24</sup> Engine and boiler seatings 11.5.23 Engines holding down bolts 11.6.24  
Completion of pumping arrangements 11.6.24 Boilers fixed 3.6.24 Engines tried under steam 28-6-24  
Completion of fitting sea connections 29.6.24 Stern tube 11.5.23 Screw shaft and propeller 19.6.24  
Main boiler safety valves adjusted 20.6.24 Thickness of adjusting washers Port Mr. P 7 5/8" Center Mr. P 7 5/8" Star Mr. P 13 5/8"  
Material of Crank shaft Steel Identification Mark on Do. 645 Material of Thrust shaft Steel Identification Mark on Do. 645  
Material of Tunnel shafts steel Identification Marks on Do. 645 Material of Screw shafts steel Identification Marks on Do. 645  
Material of Steam Pipes S.D. Copper ✓ Test pressure 360 lb/sq in ✓  
Is an installation fitted for burning oil fuel ✓ 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.)

The engines of this vessel have been built under special Survey and in accordance with the Rules; the workmanship and materials are good.

The boilers and engines have been securely fitted on board, tried under steam and found satisfactory.

The machinery of this vessel is eligible in my opinion for the record of + L.M.C. 6.24

It is submitted that  
this vessel is eligible for  
THE RECORD. + L.M.C. 6.24. CL.

The amount of Entry Fee ... £ 5 : 0 : 0 When applied for, FRI. 25 1929  
Special 3/5 ... £ 47 : 11 : 6 1-7-1924  
Donkey Boiler Fee ... £ : : :  
Travelling Expenses (if any) £ : : : 19.7.24

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW -8 JUL 1924

Assigned + L.M.C. 6.24

FRI. 21 NOV 1924  
TUE. 11 DEC 1928  
FRI. 4 DEC 1925  
FRI. 4 MAR 1927  
TUE. 30 JUL 1929  
FRI. 17 DEC 1926  
TUE. 2 OCT 1928  
FRI. 1 JAN 1926  
FRI. 9 MAR 1928  
FRI. 24 SEP 1926

TUE. 29 APR 1930