

## REPORT ON MACHINERY.

No. 22001

WED. NOV. - 6. 1912

Received at London Office

Date of writing Report 18. 10. 1912 When handed in at Local Office 2. 11. 1912 Port of Glasgow  
 No. in Survey held at Glasgow Date, First Survey 19. 4. 12 Last Survey 31. 10. 1912.  
 Reg. Book. S/S "Dunackton" (Number of Visits 37.)  
 on the Master Built at Glasgow By whom built G. Bonnell & Co. Ltd.  
 Engines made at Glasgow By whom made Dunsin & Jackson Ltd (Hog) when made 1912  
 Boilers made at ditto By whom made ditto (Hog) when made 1912  
 Registered Horse Power Owners Henderson & McIntosh Port belonging to Leith  
 Nom. Horse Power as per Section 28 536 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines Triple Expansion No. of Cylinders 3 No. of Cranks 3  
 Dia. of Cylinders 26" 24" 43" Length of Stroke 51" Revs. per minute 70 Dia. of Screw shaft as per rule 15.29 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 turned 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 If two  
 liners are fitted, is the shaft lapped or protected between the liners Length of stern bush 5.3"  
 Dia. of Tunnel shaft as per rule 13.9 Dia. of Crank shaft journals as per rule 14.64 Dia. of Crank pin 15" Size of Crank webs 9 1/4" 29 1/2" Dia. of thrust shaft under  
 collars 15" Dia. of screw 18.0" Pitch of Screw 18.6" No. of Blades 4 State whether moveable No Total surface 1054  
 No. of Feed pumps 2 Diameter of ditto 4 1/4" Stroke 26" Can one be overhauled while the other is at work Yes  
 No. of Bilge pumps 2 Diameter of ditto 4 1/4" Stroke 26" Can one be overhauled while the other is at work Yes  
 No. of Donkey Engines 4 Sizes of Pumps 11" 12" 2 1/2" 5" 3 1/2" 6" No. and size of Suctions connected to both Bilge and Donkey pumps  
 In Engine Room 4-3 1/2" 1-3 1/2" Tunnel Drill In Holds, &c. 2-3 1/2" in each hold  
 No. of Bilge Injections 1 sizes 6" Connected to condenser, or to circulating pump pump Is a separate Donkey Suction fitted in Engine room & size Yes 2 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 None How are they protected Yes  
 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 23. 9. 12 of Stern Tube 23. 9. 12 Screw shaft and Propeller 23. 9. 12  
 Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from UER Platform

BOILERS, &c.—(Letter for record) Manufacturers of Steel Steel Co. Ltd. Glasgow & Steel Co. Ltd. Glasgow  
 Total Heating Surface of Boilers 7680 Is Forced Draft fitted Yes No. and Description of Boilers 3 Single Ended  
 Working Pressure 200 Tested by hydraulic pressure to 400 Date of test 20. 8. 12 No. of Certificate 11423  
 Can each boiler be worked separately Yes Area of fire grate in each boiler 52.54 No. and Description of Safety Valves to  
 each boiler Double Spring Area of each valve 8.29 Pressure to which they are adjusted 205 Are they fitted with easing gear Yes  
 Smallest distance between boilers or uptakes and bunkers or woodwork 6 feet Mean dia. of boilers 15.1" Length 12.5 Material of shell plates S  
 Thickness 1 1/2" Range of tensile strength 28 1/2/32 Are the shell plates welded or flanged Yes Descrip. of riveting: cir. seams DR  
 long. seams TR O D B S Diameter of rivet holes in long. seams 1 1/2" Pitch of rivets 10 3/8" Lap of plates or width of butt straps 1-10 1/4"  
 Per centages of strength of longitudinal joint rivets 83.4 plate 85.6 Working pressure of shell by rules 219 Size of manhole in shell 16 1/2"  
 Size of compensating ring 20" No. and Description of Furnaces in each boiler 3 Corrugated Material S Outside diameter 3.10  
 Length of plain part top Thickness of plates crown 3 1/8" bottom Description of longitudinal joint mild No. of strengthening rings 1  
 Working pressure of furnace by the rules 213 Combustion chamber plates: Material S Thickness: Sides 11/16" Back 23/32" Top 11/16" Bottom 1"  
 Pitch of stays to ditto: Sides 9 1/8" 1/8" Back 8 1/8" 1/8" Top 9 1/8" 1/8" If stays are fitted with nuts or riveted heads No Working pressure by rules 203  
 Material of stays S Diameter at smallest part 1 1/4" Area supported by each stay 47.625 Working pressure by rules 231 End plates in steam space:  
 Material S Thickness 1 1/8" Pitch of stays 16 1/4" 1/8" How are stays secured DN Working pressure by rules 207 Material of stays S  
 Diameter at smallest part 6.33 Area supported by each stay 27.5 Working pressure by rules 221 Material of Front plates at bottom S  
 Thickness 1 1/32" Material of Lower back plate S Thickness 3/32" Greatest pitch of stays 14 3/4" 13/16" Working pressure of plate by rules 245  
 Diameter of tubes 2 1/2" Pitch of tubes 3 1/8" 3 3/4" Material of tube plates S Thickness: Front 1 1/32" Back 7/8" Mean pitch of stays 9.4  
 Pitch across wide water spaces 13 1/2" Working pressures by rules 231 Girders to Chamber tops: Material Iron Depth and  
 thickness of girder at centre 11 1/4" Length as per rule 3.3 Distance apart 8 1/8" Number and pitch of stays in each 3 at 9"  
 Working pressure by rules 219 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

VERTICAL DONKEY BOILER—

Manufacturers of Steel

No.	Description	Made at	By whom made	When made	Where fixed
Working pressure	tested by hydraulic pressure to	Date of test	No. of Certificate	Fire grate area	Description of Safety
Valves	No. of Safety Valves	Area of each	Pressure to which they are adjusted	Date of adjustment	
If fitted with easing gear	If steam from main boilers can enter the donkey boiler	Dia. of donkey boiler	Length		
Material of shell plates	Thickness	Range of tensile strength	Descrip. of riveting long. seams		
Dia. of rivet holes	Whether punched or drilled	Pitch of rivets	Lap of plating	Per centage of strength of joint	Rivets Plates
Working pressure of shell by rules	Thickness of shell crown plates	Radius of do.	No. of stays to do.	Dia. of stays	
Diameter of furnace Top	Bottom	Length of furnace	Thickness of furnace plates	Description of joint	
Working pressure of furnace by rules	Thickness of furnace crown plates	Radius of do.	Stayed by		
Diameter of uptake	Thickness of uptake plates	Thickness of water tubes	Dates of survey		

SPARE GEAR. State the articles supplied:— 2 Connecting Rod bolts 1 inch for Top and ditto for bottom  
2 Main Bearing bolts 1 Set of Coupling Bolts 1 Set of Feed & Relief Pump Valve 1 Set of  
Piston Ring & Assembly of America bolts 1 inch Dia. of various sizes  
one Propeller shaft 4 Propeller blades

For DUNSMUIR & JACKSON, Limited

The foregoing is a correct description,

Manufacturer.

*James Fletcher* Manager

Dates of Survey while building	During progress of work in shops - -	1912. April 19-24-26 May 6-9-14-21-22-28 June 10-17-19 July 1-8-25 Aug 1-16-20-21
	During erection on board vessel - - -	Sept 2-9-11-16-23-24-26 Oct 1-3-4-8-10-16-18-22-24-31
	Total No. of visits	37

Is the approved plan of main boiler forwarded herewith ☒ Yes

" " " donkey " " " ☒ Yes

Dates of Examination of principal parts—	Cylinders 21. 8. 12	Slides 16. 9. 12	Covers 25. 7. 12	Pistons 25. 7. 12	Rods 25. 7. 12
Connecting rods 9. 9. 12	Crank shaft 29. 8. 12	Thrust shaft 1. 8. 12	Tunnel shafts 1. 8. 12	Screw shaft 16. 9. 12	Propeller 9. 9. 12
Stern tube 9. 9. 12	Steam pipes tested H. 10. 12	Engine and boiler seatings 23. 9. 12	Engines holding down bolts 22. 10. 12		
Completion of pumping arrangements 22. 10. 10	Boilers fixed 16. 10. 12	Engines tried under steam 31. 10. 12			
Main boiler safety valves adjusted 22. 10. 10	Thickness of adjusting washers SV 3/8 PY 3/8 B PI 3/8 SV 3/8 PI 3/8 S V 3/8 F AV 3/8 FF				
Material of Crank shaft S	Identification Mark on Do. LLOYDS WGM HOG	Material of Thrust shaft S	Identification Mark on Do. LLOYDS WGM HOG		
Material of Tunnel shafts S	Identification Marks on Do. ditto	Material of Screw shafts Iron	Identification Marks on Do. ditto		
Material of Steam Pipes S Iron		Test pressure 600 lb			

General Remarks (State quality of workmanship, opinions as to class, &c. These Engines & Boilers have been built under special survey in accordance with the approved plans. The workmanship & material are of good quality. The Machinery is eligible in my opinion for the record of. **LMC 10-12**

It is submitted that this vessel is eligible for THE RECORD. **LMC 10.12**

F.D.

*7.11.12*

The amount of Entry Fee .. £ 3 :-	When applied for, 14.11.12
Special .. £ 46.16	When received, 16.11.12
Donkey Boiler Fee .. £	
Travelling Expenses (if any) £	

Committee's Minute **GLASGOW** 5-NOV-1912  
Assigned **LMC 10.12**  
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.  
*Gordon Muir*

