

# REPORT ON MACHINERY.

No. 27910

Port of Glasgow

Received at London Office WFT. 7 JUL 1909

No. in Survey held at Glasgow  
Reg. Book. S/S "Dunedin"

Date, first Survey 22<sup>nd</sup> October 1908 Last Survey 28<sup>th</sup> June 1909  
(Number of Visits 56)

Master H J Case Built at Glasgow By whom built C Bonnell & Co Ltd  
Engines made at Glasgow By whom made Dunsen & Jackson Ltd when made 1909  
Boilers made at ditto By whom made ditto when made 1909  
Registered Horse Power Owners Dunedin S/S Co Ltd Port belonging to Leith  
Nom. Horse Power as per Section 28 518 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 24"-43"-42" Length of Stroke 48" Revs. per minute 72 Dia. of Screw shaft as per rule 14.1" 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 - 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 5.0 1/2"  
Dia. of Tunnel shaft as per rule 13.1" Dia. of Crank shaft journals as per rule 12.1 1/4" Dia. of Crank pin 14 1/2" Size of Crank webs 28.9 1/2" Dia. of thrust shaft under collars 14 1/2" Dia. of screw 14.6" Pitch of Screw 18-6" No. of Blades 4 State whether moveable Yes Total surface 95 1/2"  
No. of Feed pumps 2 Diameter of ditto 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 5 Sizes of Pumps 4.8" 4.8" 4.8" 4.8" 4.8" No. and size of Suctions connected to both Bilge and Donkey pumps In Engine Room 2. 3 1/2" Strokehold 2. 3 1/2" In Holds, &c. 2. 3 1/2" in each hold  
No. of Bilge Injections 1 sizes 5 1/2" Connected to condenser, or to circulating pump No 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 No  
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 -  
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 May of Stern Tube 24 May Screw shaft and Propeller 24 May  
Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from Upper R Platform

**BOILERS, &c.**—(Letter for record S) Manufacturers of Steel Babcock  
Total Heating Surface of Boilers 7680 Is Forced Draft fitted Yes No. and Description of Boilers 3 Single Ended  
Working Pressure 180 Tested by hydraulic pressure to 360 Date of test 8-4-09 No. of Certificate 9846  
Can each boiler be worked separately Yes Area of fire grate in each boiler 49.84 1/2" No. and Description of Safety Valves to each boiler Double Spring Area of each valve 8.29" Pressure to which they are adjusted 185 Are they fitted with easing gear Yes  
Smallest distance between boilers or uptakes and bunkers or woodwork. 12" Mean dia. of boilers 15.1 3/8" Length 19.6" Material of shell plates S  
Thickness 13/8" Range of tensile strength 28-32 Are the shell plates welded or flanged - Descrip. of riveting: cir. seams DR  
long. seams TR. D. B. S Diameter of rivet holes in long. seams 17/16" Pitch of rivets 97/8" Top of plates or width of butt straps 1-9 1/4"  
Per centages of strength of longitudinal joint rivets 88.5 Working pressure of shell by rules 201 Size of manhole in shell 16 x 12"  
Size of compensating ring 11.8" No. and Description of Furnaces in each boiler 3 Division Material S Outside diameter 8-10"  
Length of plain part top 39 1/16" Thickness of plates crown 39 1/16" Description of longitudinal joint weld No. of strengthening rings 29 1/2"  
Working pressure of furnace by the rules 184 Combustion chamber plates: Material S Thickness: Sides 21/32" Back 5/8" Top 21/32" Bottom 29/32"  
Pitch of stays to ditto: Sides 8 1/2" Back 7 1/2" Top 9 1/2" If stays are fitted with nuts or riveted heads No Working pressure by rules 190  
Material of stays S Diameter at smallest part 1.9 2 1/2" Area supported by each stay 48.45" Working pressure by rules 197 End plates in steam space:  
Material S Thickness 13/32" Pitch of stays 18 1/2" How are stays secured No Working pressure by rules 188 Material of stays S  
Diameter at smallest part 5.79" Area supported by each stay 287" Working pressure by rules 206 Material of Front plates at bottom S  
Thickness 31/32" Material of Lower back plate S Thickness 1/8" Greatest pitch of stays 19 1/2" Working pressure of plate by rules 193  
Diameter of tubes 2 1/2" Pitch of tubes 3 1/4" 3 1/16" Material of tube plates S Thickness: Front 31/32" Back 13/16" Mean pitch of stays all 9 1/8"  
Pitch across wide water spaces 13 1/2" Working pressures by rules 197 Girders to Chamber tops: Material Iron Depth and thickness of girder at centre 11 x 1 (2) Length as per rule 3-3 Distance apart 8 1/8" Number and pitch of stays in each 3 at 9 1/8"  
Working pressure by rules 201 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 \_\_\_\_\_ Stayed by \_\_\_\_\_

Diameter of uptake \_\_\_\_\_ Thickness of uptake plates \_\_\_\_\_ Thickness of water tubes \_\_\_\_\_ Dates of survey \_\_\_\_\_

SPARE GEAR. State the articles supplied:—

Propeller Shaft, 2 Connecting Rod Bolts & Nuts for each end, 2 Main Bearing Bolts  
 1 Set of Coupling Bolts, 1 Set of Feed, Bridge Pump Valves, 1 Set of Piston Rings & P  
 1 HP. A quantity of assorted Bolts & Nuts & Iron of various sizes.

The foregoing is a correct description,  
 For DUNSMUIR & JACKSON, Limited  
 James Fletcher Manufacturer.

Dates of Survey while building	During progress of work in shops - -	1908: - Oct. 22, 26, 28, 30. Nov. 4, 9, 12, 14, 17, 19, 24. Dec. 3, 7, 11, 17, 23, 29.	
		During erection on board vessel - -	1909: - Jan. 12, 14, 19, 26, 29. Feb. 1, 4, 9, 13, 17, 22, 24, 27. Mar. 2, 11, 15, 17, 22, 29. Apr. 6, 8, 10, 14, 23, 26, 27. May. 6, 13, 19, 24, 26, 31. June 2, 4, 11, 15, 22, 24, 28. July 2.
		Total No. of visits	54.

Dates of Examination of principal parts—	Cylinders 29-3-09	Slides 9-2-09	Covers 29-3-09	Pistons 17-2-09	Rods 17-2-09
Connecting rods	8-4-09	Crank shaft 15-3-09	Thrust shaft 22-2-09	Tunnel shafts 15-3-09	Screw shaft 2-3-09
Stern tube	23-4-09	Steam pipes tested 4-6-09	Engine and boiler seatings 24-5-09	Engines holding down bolts 10-6-09	
Completion of pumping arrangements	22-6-09	Boilers fixed 10-6-09	Engines tried under steam 2-7-09		
Main boiler safety valves adjusted	15-6-09	Thickness of adjusting washers	PV 7/16 SV 3/8 PV 3/8 SV 3/8 PV 7/16 SV 7/16		
Material of Crank shaft	§	Identification Mark on Do.	WGM	Material of Thrust shaft	§
Material of Tunnel shafts	§	Identification Marks on Do.	ditto	Material of Screw shafts	§
Material of Steam Pipes	Steel	Test pressure	540 lbs		

General Remarks (State quality of workmanship, opinions as to class, &c. These Engines & Boilers have been constructed & fitted on board under special survey in accordance with the approved plan & they have been securely fitted on board & the workmanship & material are of good quality. The Machinery is in my opinion eligible for the record of LMC 7-09. This vessel is a duplicate of the S/S "Glencherry" Glasgow Report No: 24448

It is submitted that this vessel is eligible for THE RECORD. + LMC 7.09  
 FD. Elec light.  
 J.R.R. 8-7-09  
 W. Gordon Muir  
 Engineer, Surveyor to Lloyd's Register of British & Foreign Shipping.

The amount of Entry Fee	£ 3 : -	When applied for	3/7/09
Special	£ 45 : 13	When received	7-7-09
Donkey Boiler Fee	£ - : -		
Travelling Expenses (if any)	£ - : -		

Committee's Minute GLASGOW 6 JUL 1909  
 Assigned + LMC 7.09

Glasgow

