

## REPORT ON MACHINERY.

No. 35790

Received at London Office W.L. 23, 1916

Surveying Report  
 Survey held at Glasgow Date, First Survey 5/1/15 Last Survey 9<sup>th</sup> Feb 1916  
 on the Machinery of Steel S. S. PORTOGRANDE (Number of Visits 61)  
 Built at Glenoch By whom built G. Brown & Co. (No. 92) Tons { Gross 1915 Net 1915 When built 1915  
 Made at Glasgow By whom made McKie & Baxter (No. 806) when made 1915  
 Made at Glasgow By whom made A. Anderson & Sons (No. 752) when made 1915  
 Rated Horse Power 35 Owners Hull & Co. & Co. Port belonging to S. Vincent  
 Horse Power as per Section 28 35 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted No

**ENGINES, &c.—Description of Engines** Compound Surface Eng. No. of Cylinders 2 No. of Cranks 2  
 of Cylinders 12 & 24 Length of Stroke 18 Revs. per minute 160 Dia. of Screw shaft 5.48 Material of Steel  
 as fitted 5.2 screw shaft  
 Is the after end of the liner made water tight Yes  
 Is the propeller boss Yes If the liner is in more than one length are the joints burned in Yes the liner does not fit tightly at the part  
 on the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive Yes If two  
 are fitted, is the shaft lapped or protected between the liners Yes Length of stern bush 1.10  
 of Tunnel shaft 4.98 as per rule 5.23 Dia. of Crank shaft journals 5.4 as per rule 5.4 Dia. of Crank pin 5.4 Size of Crank webs 32 x 9.5 Dia. of thrust shaft under  
 as fitted 5.4 Dia. of screw 6.6 Pitch of Screw 6.6 No. of Blades 4 State whether moveable No Total surface 18.7  
 of Feed pumps one Diameter of ditto 2 Stroke 9 Can one be overhauled while the other is at work Yes  
 of Bilge pumps one Diameter of ditto 2 Stroke 9 Can one be overhauled while the other is at work Yes  
 of Donkey Engines 1 Duplex Sizes of Pumps 4.5 Stroke 4 No. and size of Suctions connected to both Bilge and Donkey pumps  
 Engine Room 3 Suctions 2.5 In Holds, &c. 1-7 suction in cargo tank  
connected to cargo pump only  
 of Bilge Injections 1 size 2.2 Connected to condenser, or to circulating pump Pump Is a separate Donkey Suction fitted in Engine room & size Yes 2  
 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 None  
 all connections with the sea direct on the skin of the ship Yes Are they Valves or Cocks Valve cocks  
 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  
 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  
 pipes are carried through the bunkers None How are they protected Yes  
 all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times Yes  
 the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilge Yes  
 of examination of completion of fitting of Sea Connections 18/10/15 of Stern Tube 18/10/15 Screw shaft and Propeller 18/10/15  
 the Screw Shaft Tunnel watertight No tunnel Is it fitted with a watertight door worked from

**BOILERS, &c.—(Letter for record)** Manufacturers of Steel  
 Heating Surface of Boilers 733.4 Is Forced Draft fitted No No. and Description of Boilers One Single ended  
 Working Pressure 130 lb Tested by hydraulic pressure to 135 lb Date of test 18/10/15 No. of Certificate 18/10/15  
 each boiler be worked separately Area of fire grate in each boiler 28.75 No. and Description of Safety Valves to 135 lb  
 boiler 2 Direct Spring Area of each valve 3.9 Pressure to which they are adjusted 135 lb Are they fitted with easing gear Yes  
 least distance between boilers or uptakes and bunkers or woodwork 12 Mean dia. of boiler 36 Length 12 Material of shell plates Steel  
 thickness Range of tensile strength Are the shell plates welded or flanged Yes Descrip. of riveting: cir. seams Yes  
 seams Diameter of rivet holes in long. seams Pitch of rivets Lap of plates or width of butt straps  
 percentages of strength of longitudinal joint Working pressure of shell by rules Size of manhole in shell  
 of compensating ring No. and Description of Furnaces in each boiler Material Outside diameter  
 length of plain part Thicknes of plates Description of longitudinal joint No. of strengthening rings  
 working pressure of furnace by the rules Combustion chamber plates: Material Thickness: Sides Back Top Bottom  
 of stays to ditto: Sides Back Top If stays are fitted with nuts or riveted heads Working pressure by rules  
 material of stays Diameter at smallest part Area supported by each stay Working pressure by rules End plates in steam space  
 material Thicknes Pitch of stays How are stays secured Working pressure by rules Material of stays  
 diameter 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  
 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 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 rivets  
 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



*If so, is a report now forwarded?*

State the articles supplied:—

SPARE GEAR. State the articles supplied:— 2 each of top & bottom end main bearing & with nuts, a set of coupling bolts & nuts, valves for each pump assorted bolts & nuts, iron of various sizes.

Mekie & Baxter

**Manufacturer.**

Dates of Survey while building { During progress of work in shops - - } 1915 Jan 5-9-11 Feb 26 Mar 9-22 Apr 15-26 May 10-14-18-20-26-31 June 3-7-11-14-18 July 5-15 Aug 12-17-25-31  
 { During erection on board vessel - - } Oct 21-27 Nov 1-3-5-6-11-15-16-18-22-24-25-26-27-29-30 Dec 1-3-4-6-8-10-13-14-16-20-21-28-29-1916 Jan 11 Feb 2-9  
 { Total No. of visits } 61

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" " " donkey " " "  
 Dates of Examination of principal parts—Cylinders 9/2/15 Slides 29/5/15 Covers 7/9/15 8/6/15 Pistons 18/6/15 Rods 3/6/15  
 Connecting rods 3/6/15 Crank shaft 20/5/15 Thrust shaft 25/8/15 Tunnel shafts none Screw shaft 17/5/15 Propeller 1/7/15  
 Stern tube 1/9/15 Steam pipes tested 28/2/15 Engine and boiler seatings 16/2/15 Engines holding down bolts 29/1/15  
 Completion of pumping arrangements 2/2/15 Boilers fixed 2/2/15 Engines tried under steam 9/2/15  
 Main boiler safety valves adjusted 9/2/15 Thickness of adjusting washers Stand 1/32. Port 9/32  
 Material of Crank shaft Steel Identification Mark on Do. 11806 Material of Thrust shaft Steel Identification Mark on Do. 11806  
 Material of Tunnel shafts none Identification Marks on Do. ✓ Material of Screw shafts Steel Identification Marks on Do. 11806  
 Material of Steam Pipes Solid drawn Copper Test pressure 300 lbs.  
 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 25

*General Remarks* (State quality of workmanship, opinions as to class, &c.)

General Remarks (State quality of workmanship, opinions as to class, &c.) This machinery has been built under special survey in accordance with the Rules. The materials & workmanship are good. The machinery has been satisfactorily fitted on board & tried under steam & the case is eligible in my opinion for the notation + LMC L. 16.

It is submitted that  
this vessel is eligible for  
THE RECORD, + LMC 2. 16

JWD  
 24/2/16  
 [Signature]

The amount of Entry Fee ...	£	1 : 0 0	When applied for,
Special ...	£	5 18 0	14/2/1916
Donkey Boiler Fee ...	£		When received,
Travelling Expenses (if any) £	:	:	11.3.1916

Engineer Surveyor to Lloyd's Register of British & Foreign Ships

TUES. 19 AUG 1924

Committee's Minute GLASGOW 22 FEB. 1916

Assigned + L.M.C. 216

### EARNING OF CERTIFICATE

WRITTEN 23/2/16

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Foundation