

REPORT ON MACHINERY

Wm. No. 11819.
No. 35686
THU. - 6 JAN. 1916

Date of writing Report 27-12-1915 When handed in at Local Office 29-12-1915 Port of Glasgow
No. in Survey held at Glasgow Date, First Survey 19/5/15 Last Survey 27-12-1915
Reg. Book. on the Machinery for the S. S. "Vale of North" (Number of Vials 23)
Master Nightingale Built at Aberdeen By whom built J. Duthie and Co. 419 Tons } Gross 226.
Engines made at Coatbridge By whom made W. Beardmore & Co. Ltd 450 when made 1915 } Net 88.
Boilers made at Glasgow By whom made D. Rowan & Co. 226 when made 1915
Registered Horse Power 41 Owners Vale of Leven Steam Fishing Co. Ltd. Port belonging to Aberdeen.
Nom. Horse Power as per Section 28 41 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted No

ENGINES, &c.—Description of Engines Triple expansion No. of Cylinders 3 No. of Cranks 3
Dia. of Cylinders 11 1/2, 20, 34 Length of Stroke 23 Revs. per minute 108 Dia. of Screw shaft 6 1/2 as per rule 4 1/2 as fitted 4 1/2 Material of screw shaft W. S.
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 2'-9"
Dia. of Tunnel shaft as per rule 6-01 Dia. of Crank shaft journals as per rule 6 1/2 as fitted 6 3/4 Dia. of Crank pin 6 3/4 Size of Crank webs 14 1/2 x 4 1/2 of thrust shaft under
collars 6 3/4 Dia. of screw 8-6 Pitch of Screw 11-6 No. of Blades 4 State whether moveable No Total surface 31 sq. ft.
No. of Feed pumps 1 Diameter of ditto 2 7/8 Stroke 11 1/2 Can one be overhauled while the other is at work
No. of Bilge pumps 1 Diameter of ditto 2 7/8 Stroke 11 1/2 Can one be overhauled while the other is at work
No. of Donkey Engines 2 Sizes of Pumps 3 1/4 x 3 1/2 x 5, 5 1/2 x 4 1/2 x 5 No. and size of Suctions connected to both Bilge and Donkey pumps
In Engine Room 2-2 1/2 Eng. Room aft, Eng. Room Fore In Holds, &c. 2-2 1/2 Blushwell 1 hold
1-2 Freshwater Tank. Ejector drawing from all parts with separate S.C. to engine room 2' dia.
No. of Bilge Injections 1 sizes 3 Connected to condenser, or to circulating pump C. P. Is a separate Donkey Suction fitted in Engine room & size Yes 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 Values and Cocks
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 Suction from stokehold, Blushwell & F. Tank. How are they protected Strong wood casing.
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 25.10.15 of Stern Tube 22.10.15 Screw shaft and Propeller 25.10.15
Is the Screw Shaft Tunnel watertight Stone Is it fitted with a watertight door worked from

OILERS, &c.—(Letter for record S.) Manufacturers of Steel

Total Heating Surface of Boilers 1250 sq. ft. Is Forced Draft fitted No. and Description of Boilers
Working Pressure 180 lbs. Tested by hydraulic pressure to 360 Date of test 24-5-15 No. of Certificate 13224
Can each boiler be worked separately Area of fire grate in each boiler 38 sq. ft. No. and Description of Safety Valves to
each boiler 2 Spring as above Area of each valve 4-9 Pressure to which they are adjusted 185 lbs. Are they fitted with easing gear Yes
Smallest distance between boilers or uptakes and bunkers or woodwork about 7' Mean dia. of boilers 12' 6" Length 10' 3" Material of shell plates
Thickness Range of tensile strength Are the shell plates welded or flanged Description of riveting: cir. seams
long. seams Diameter of rivet holes in long. seams Pitch of rivets 22.35 x 49 Lap of plates or width of butt straps
Per centages of strength of longitudinal joint rivets Working pressure by rules 35876 Size of manhole in shell
Size of compensating ring No. and Description of Furnaces in each boiler Material Outside diameter
Length of plain part top Thickness of plates bottom Description of longitudinal joint No. of strengthening rings
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 Diameter 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
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
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 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
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

VERTICAL DONKEY BOILER—Manufacturers of Steel

No.	Description	When made	Where fixed
Made at	By whom made	No. of Certificate	Fire grate area
Working pressure	tested by hydraulic pressure to	Date of test	Description of Safety
Valves	No. of Safety Valves	Area of each	Pressure to which they are adjusted
If fitted with easing gear	If taken 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
Working pressure of shell by rules	Thickness of shell crown plates	Radius of do.	No. of stays to do.
Diameter of furnace Top	Bottom	Length of furnace	Thickness of furnace plates
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 Rods Top and 2 Bottom end bolts
2 Main bearing bolts, 1 set of coupling bolts, 1 set of Head & Bilge pump
valves, a quantity of assorted bolts and nuts. Iron of various sizes.
1 set each Air & Exc. pump valves; 1 each main donkey check valve; 1 safety valve spring.
The foregoing is a correct description, for **WILLIAM BEARDMORE & CO., LIMITED.**

Dates of Survey while building	During progress of work in shops	During erection on board vessel	Total No. of visits
1915 May 19-26 Jun 9-17-29 July 5-28 Aug 13-25 Sept 3-8-15-21-28 Oct 8-14-23-30	Nov 3-17-26 Dec 7-27	1916 Jan 5-14-20-28 Feb 4-14-24 Mar 4-16-18	23
Is the approved plan of main boiler forwarded herewith			
" " " donkey " " "			
Dates of Examination of principal parts—Cylinders 28-9-15 Slides 28-9-15 Covers 8-9-15 Pistons 28-9-15 Rods 30-10-1			
Connecting rods 30-10-1 Crank shaft 8-10-15 Thrust shaft 14-11-15 Tunnel shafts 24-12-15 Screw shaft 23-10-15 Propeller 23-10-1			
Stern tube 14-10-15 Steam pipes tested 24-2-16 Engine and boiler seatings 29-4-15 Engines holding down bolts 14-1-16			
Completion of pumping arrangements 4-2-16 Boilers fixed 24-2-16 Engines tried under steam 4-3-16			
Main boiler safety valves adjusted 4-3-16 Thickness of adjusting washers Port 1 1/2" Star 1 1/2"			
Material of Crank shaft Mild steel Identification Mark on Do. 4040 4040 5-10-15 Material of Thrust shaft Mild steel Identification Mark on Do. 4040 4040 5-10-15			
Material of Tunnel shafts Mild steel Identification Marks on Do. 4041 4041 5-10-15 Material of Screw shafts W.S. Identification Marks on Do. 4040 4040 5-10-15			
Material of Steam Pipes Copper 3 1/4" bore S.Y. 345 Test pressure 360 lbs per sq inch.			

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

The machinery has been built under special survey in accordance with the approved plans and the rules of the society. The material and workmanship are of good quality throughout. This machinery together with the Boiler. No 35846 has now been fitted on board and tried under steam at moorings, with satisfactory results and is now in good order, and in my opinion entitled to the record L.M.C. 3.16. in the Register Book—

Ridley Powell.

It is submitted that this vessel is eligible for THE RECORD + LMC 3.16.

The amount of Entry Fee	£ 1 : 0 : 0	When applied for
Special	£ 4 : 2 : 0	5/1/16
Donkey Boiler Fee	£ 3 : 11 : 0	When received
Travelling Expenses (if any)	£ :	8-4-1916

Committee's Minute GLASGOW

Assigned

Deferred for completion

MACHINERY CERTIFICATE WRITTEN.

Fred. A. Ferguson.
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping

FRI 31 MAR 1916

+ L.M.C. 3.16

Lloyd's Register
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Foundation