

REPORT ON MACHINERY.

No. 33899

Received at London Office

JUE MAYE 1914

of writing Report 30. 3. 1914 When handed in at Local Office 2574/1 to Port of GLASGOW

in Survey held at Paisley Date, First Survey 22. 7. 13 Last Survey 21. 4. 1914

Book on the Screw Steam Lightship "Halifax" No. 19 Number of Visits 38

ster Built at Paisley By whom built Bou McLachlan & Co L^{td} Tons Gross 513 Net 245 When built 1914

ines made at Paisley By whom made Bou McLachlan & Co L^{td} when made 1914

lers made at ditto By whom made ditto when made 1914

istered Horse Power Owners Canadian Govt Dept of Marine Port belonging to Ottawa Fisheries Co

re. Horse Power as per Section 28 94 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

INES, &c.—Description of Engines Compound Surface Condensing No. of Cylinders 2 No. of Cranks 2

of Cylinders 16 - 32 Length of Stroke 24 Revs. per minute 150 Dia. of Screw shaft as per rule 6.9 as fitted 4 1/2 Material of screw shaft S

he 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

he propeller boss Yes If the liner is in more than one length are the joints burned Yes If the liner does not fit tightly at the part

een the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive Yes If two

rs are fitted, is the shaft lapped or protected between the liners Yes Length of stern bush 2-6

of Tunnel shaft as per rule 6.48 Dia. of Crank shaft journals as per rule 6.8 Dia. of Crank pin 4 3/4 Size of Crank webs 3 3/4 x 5 1/8 Dia. of thrust shaft under

ars 4 1/4 Dia. of screw 7-0 Pitch of Screw 8-0 No. of Blades 4 State whether moveable No Total surface 207

of Feed pumps 2 Diameter of ditto Stroke 5-6-12 - 9-5 1/4-10 Can one be overhauled while the other is at work Yes

of Bilge pumps 2 Diameter of ditto Stroke 5-6-12 - 9-5 1/4-10 Can one be overhauled while the other is at work Yes

of Donkey Engines one Sizes of Pumps 9-5 1/4-10 No. and size of Suctions connected to both Bilge and Donkey pumps

Engine Room 2-2 In Holds, &c. Bunkers (cross) 1-2, Fore Peak 1-2

eam Locker 1-2 Aft Peak 1-2

of Bilge Injections one sizes 5" 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 Yes

all connections with the sea direct on the skin of the ship Yes Are they Valves or Cocks both

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 both

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

at pipes are carried through the bunkers Fresh Water Ballast Bilge How are they protected Wood casing

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 bilges Yes

es of examination of completion of fitting of Sea Connections 5-2-14 of Stern Tube 5-2-14 Screw shaft and Propeller 5-2-14

he Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from UER Platform

ERS, &c.—(Letter for record S) Manufacturers of Steel Beardmore Lanarkshire, Stewart & Lloyd

l Heating Surface of Boilers 2299 # Is Forced Draft fitted No No. and Description of Boilers 2 Single Ended

king Pressure 120 Tested by hydraulic pressure to 240 Date of test 9-1-14 No. of Certificate 12492

each boiler be worked separately Yes Area of fire grate in each boiler 33A No. and Description of Safety Valves to

boiler Double Spring Area of each valve 9.06 Pressure to which they are adjusted 125 Are they fitted with easing gear Yes

llest distance between boilers or uptakes and bunkers or woodwork 8-0 Mean dia. of boilers 10-6 3/8 Length 10-9 Material of shell plates S

kness 5/8 Range of tensile strength 28-32 Are the shell plates welded or flanged Yes Descrip. of riveting: cir. seams DR

seams TRIDBS Diameter of rivet holes in long. seams 23/32 Pitch of rivets 5 1/32 Lap of plates or width of butt straps 10 5/16

centages of strength of longitudinal joint rivets 57.6 plate 96.5 Working pressure of shell by rules 121 Size of manhole in shell 16 x 12

of compensating ring M. Mills No. and Description of Furnaces in each boiler Two Corrugated Material S Outside diameter 3-3 1/4

th of plain part top Thickness of plates crown 3/8 Description of longitudinal joint weld No. of strengthening rings

king pressure of furnace by the rules 128 Combustion chamber plates: Material S Thickness: Sides 9/16 Back 9/16 Top 9/16 Bottom 9/16

Top of stays to ditto: Sides 9 1/2 x 8 Back 9 x 9 Top 9 5/8 x 8 1/2 If stays are fitted with nuts or riveted heads No Working pressure by rules 123

erial of stays S Diameter at smallest part 2 1/4 1/2 Area supported by each stay 81 1/2 Working pressure by rules 135 End plates in steam space:

erial S Thickness 13/16 Pitch of stays 14 x 14 How are stays secured DN Working pressure by rules 125 Material of stays S

erial S Diameter at smallest part 2.36 Area supported by each stay 196 Working pressure by rules 159 Material of Front plates at bottom S

kness 13/16 Material of Lower back plate S Thickness 13/16 Greatest pitch of stays 13 1/4 x 9 Working pressure of plate by rules 190

eter of tubes 3 1/2 Pitch of tubes 4 5/8 Material of tube plates S Thickness: Front 13/16 Back 11/16 Mean pitch of stays 11 9/16

h across wide water spaces 14 Working pressures by rules 121 Girders to Chamber tops: Material S Depth and

ness of girder at centre 8 x 5 1/8 (2) Length as per rule 2.3 1/4 Distance apart 9 5/8 Number and pitch of stays in each 2-8 1/2

king pressure by rules 123 Superheater or Steam chest; how connected to boiler Yes Can the superheater be shut off and the boiler worked

ately Diameter Length Thickness of shell plates Material Description of longitudinal joint Diam. of rivet

No. of Visits 5 Pitch of rivets Working pressure of shell by rules Diameter of flue Material of flue plates Thickness

iffened with rings Distance between rings Working pressure by rules End plates: Thickness How stayed

king 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 casing 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	
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 sub for top end ditto for bottom end. 2 Main Bearing bolts. 1 set of Coupling bolts, 1 set of Feed & Bilge Pump valves 1 set of Piston Rings, a quantity of assorted bolts & nuts. Iron of various sizes

The foregoing is a correct description,

W. Brown Manufacturer.

Dates of Survey while building: During progress of work in shops -- 1913. July 22-28. Aug 1-7-28. Sept 4-9-22-30. Oct 6-9-16-22-23-27. Nov. 11-24. Dec. 9-22.
 During erection on board vessel --- 1914. Jan 9-15-20-29. Feb 5-9-12-25. Mar 2-9-16-19-27-31. Apr 2-8-10-16-21.
 Total No. of visits 38.

Is the approved plan of main boiler forwarded herewith *Yes*

Dates of Examination of principal parts—Cylinders 9-12-13 Slides 9-12-13 Covers 24-11-13 Pistons 9-12-13 Rods 9-1-14
 Connecting rods 9-1-14 Crank shaft 9-12-13 Thrust shaft 9-12-13 Tunnel shafts 24-11-13 Screw shaft 9-1-14 Propeller 20-1-14
 Stern tube 9-1-14 Steam pipes tested 16-3-14 Engine and boiler seatings 5-2-14 Engines holding down bolts 9-3-14
 Completion of pumping arrangements 9-3-14 Boilers fixed 25-2-14 Engines tried under steam 21-4-14
 Main boiler safety valves adjusted 27-3-14 Thickness of adjusting washers FR 1/2 AR 17/32 FR 7/16 AR 29/164
 Material of Crank shaft S Identification Mark on Do. **LLOYDS 3184 W.G.M.** Material of Thrust shaft S Identification Mark on Do. **LLOYDS 3184 W.G.M.**
 Material of Tunnel shafts S Identification Marks on Do. **LLOYDS 3184 W.G.M.**
 Material of Steam Pipes *stul* Test pressure 360lb^g

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 plan & the workmanship & material are of good quality. The machinery is eligible in my opinion for the Record of **L.M.C. 4-14**)

It is submitted that this vessel is eligible for THE RECORD. + L.M.C. 4. 14.

J.W.D.
9/5/14
A.P.S.

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

Wm Gordon Muclim
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute TUE. MAY 5 - 1914
 Assigned + L.M.C. 4, 14



GLASGOW

MACHINERY CERTIFICATE WRITTEN