

# REPORT ON MACHINERY.

No. 33899

Received at London Office

JUE MAYE

of writing Report 30. 3. 1914 When handed in at Local Office 25/4/1914 Port of **GLASGOW**  
 in Survey held at **Parsley** Date, First Survey 22. 7. 13 Last Survey 21. 4. 1914  
 on the **Screw Steam Lightship "Halifax"** No. of Visits 38  
 Built at **Parsley** By whom built **Bou McLachlan & Co Ltd** Tons Gross 513 Net 245  
 When built 1914  
 By whom made **Bou McLachlan & Co Ltd** when made 1914  
 By whom made **ditto** when made 1914  
 Owners **Canadian Govt Dept of Marine Fisheries** Port belonging to **Ottawa**  
 Is Refrigerating Machinery fitted for cargo purposes **No** Is Electric Light fitted **Yes**

**GINES, &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  
 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  
 If the liner is in more than one length are the joints burned **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 **Yes** If two  
 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 as fitted 4 Dia. of Crank shaft journals as per rule 6.8 as fitted 4 1/4 Dia. of Crank pin 4 3/4 Size of Crank webs 3 3/4 x 5 1/8 Dia. of thrust shaft under  
 of Feed pumps 2 Diameter of ditto Stroke 8-0 No. of Blades 4 State whether moveable **No** Total surface 207  
 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 (brom) 1-2, Fore Peak 1-2**  
 of Bilge Injections **one** sizes 5 Connected to condenser, or to circulating pump **Yes** 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 **Flush with Ballast Bulkhead** How are they protected **Good 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**  
 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  
 Is it fitted with a watertight door **Yes** worked from **U E R Platform**

**MANUFACTURERS, &c.**—(Letter for record) Manufacturers of Steel **Beaumont Lanarkshire Steel Works**  
 Heating Surface of Boilers 2299 # Is Forced Draft fitted **No** No. and Description of Boilers 2 Single Ended  
 Working 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 33 # No. and Description of Safety Valves to  
 boiler **Double Spring** Area of each valve 7.06 Pressure to which they are adjusted 125 Are they fitted with easing gear **Yes**  
 least 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  
 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 Top of plates or width of butt straps 10 5/16  
 percentages of strength of longitudinal joint rivets 57.6 plate 76.5 Working pressure of shell by rules 121 Size of manhole in shell 16 x 12  
 of compensating ring **M. H. H.** No. and Description of Furnaces in each boiler **Two Corrugated** Material S Outside diameter 3-3 1/4  
 Thickness of plates crown 3/8 bottom 3/8 Description of longitudinal joint **weld** No. of strengthening rings **Yes**  
 Working 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  
 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 **Yes** Working pressure by rules 123  
 Diameter at smallest part 2 1/4 Area supported by each stay 8-1 Working pressure by rules 135 End plates in steam space:  
 Thickness 13/16 Pitch of stays 14 x 14 How are stays secured **DN** Working pressure by rules 125 Material of stays S  
 at smallest part 2.36 Area supported by each stay 196 Working pressure by rules 159 Material of Front plates at bottom S  
 Thickness 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  
 Diameter 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  
 Working pressures by rules 121 Girders to Chamber tops: Material S Depth and  
 Length as per rule 2.3 1/4 Distance apart 9 5/8 Number and pitch of stays in each 2-8 1/2  
 Superheater or Steam chest; how connected to boiler **Yes** Can the superheater be shut off and the boiler worked  
 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  
 offered 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

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# 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 Rivets  
 Working pressure of shell by rules Thickness of shell crown plates Radius of do. No. of stays to do. Dia. of stays Plates  
 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 each 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,

SOW, M. LACHLAN & Co., Ltd.

M. Brown

Manufacturer.

Dates of Survey while building { During progress of work in shops -- 1913. July 22-28. Aug 1-7-28. Sept 4-9-28-30. Oct 6-9-16-22-23-27. Nov. 11-24. Dec. 7-22.  
 { 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.C.M. Material of Thrust shaft S Identification Mark on Do. LLOYDS 3184 W.C.M.  
 Material of Tunnel shafts S Identification Marks on Do. LLOYDS 3184 W.C.M. Material of Screw shafts S Identification Marks on Do. LLOYDS 3184 W.C.M.  
 Material of Steam Pipes Steel Test pressure 360lb

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 LMC 4.14

It is submitted that this vessel is eligible for THE RECORD. + LMC 4.14.

JWD 5/5/14 ARSL

The amount of Entry Fee .. £ 1 : - : When applied for, 1-5-14  
 Special .. £ 14.2- :  
 Donkey Boiler Fee .. £ : :  
 Travelling Expenses (if any) £ : : When received, 5/5/14

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

Committee's Minute

TUE. MAY 5-1914

Assigned

+ LMC 4.14

MACHINERY CERTIFICATE WRITTEN



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