

REPORT ON MACHINERY.

No. 41461

Date of writing Report 24.10.21 When handed in at Local Office 24.10.21 Port of Glasgow Received at Office WED. 26 OCT. 1921

No. in Survey held at Reg. Book. S/S 'Blau Macnair' Date, First Survey 2.9.1919 Last Survey 15.10.1921
 on the S/S 'Blau Macnair' (Number of Visits 85)

Master James Built at Dumfries By whom built Agnew, Dodds & Co. Tons Gross 6094 Net 3727
 Engines made at Glasgow By whom made Dunlop & Jackson Ltd (S19) when made 1921 When built 1921
 Boilers made at ditto By whom made ditto (S19) when made 1921
 Registered Horse Power _____ Owners Baygon, Irvine & Co. Ltd Port belonging to Glasgow
 Nom. Horse Power as per Section 28 560 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

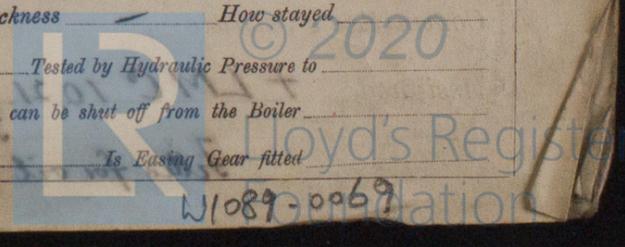
ENGINES, &c.—Description of Engines Triplic Expansion No. of Cylinders 3 No. of Cranks 3
 Dia. of Cylinders 24 1/2 - 48 1/2 - 45 Length of Stroke 54 Revs. per minute 72 Dia. of Screw shaft as per rule 2 3/4 Material of screw shaft S
 Is the screw shaft fitted with a continuous liner the whole length of the stern tube Yes Is the after end of the liner made water tight in the 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 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 99"
 Dia. of Tunnel shaft as per rule 1 1/2 Dia. of Crank shaft journals as per rule 1 3/4 Dia. of Crank pin 1 5/8 Size of Crank webs 2 1/4 x 1 1/2 Dia. of thrust shaft under collars 1 5/8 Dia. of screw 1 1/2 Pitch of Screw 19.0 No. of Blades 4 State whether moceable Yes Total surface 105 1/2 sq ft
 No. of Feed pumps 2 Diameter of ditto 4 3/4 Stroke 30 Can one be overhauled while the other is at work Yes
 No. of Bilge pumps 2 Diameter of ditto 4 3/4 Stroke 30 Can one be overhauled while the other is at work Yes
 No. of Donkey Engines 6 Sizes of Pumps 1 1/2, 2, 3, 4, 5, 6, 8, 10, 12, 15 No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room 2 at 3 1/2" Strokehold 2 at 3 1/2" Tumb. 1.2 1/2 In Holds, &c. 9" 2.3 1/2" 7" 2.2 3/4" 8" 3" 8" 3" a Deep Tank
 No. of Bilge Injections 1 sizes 8" Connected to circulating pump Yes Is a separate Donkey Suction fitted in Engine room & size 1.3 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 Now
 Are all connections with the sea direct on the skin of the ship Yes Are they Valves or Cocks Both
 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 Below
 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 Now 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
 Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from Upper E.R. Platform

BOILERS, &c.—(Letter for record 7806) Manufacturers of Steel Blair & Co. Glasgow & Lanarkshire
 Total Heating Surface of Boilers 7806 sq ft Is Forced Draft fitted Yes No. and Description of Boilers 3 Single Ended
 Working Pressure 200 Tested by hydraulic pressure to 400 Date of test 21.1.21 No. of Certificate 15683
 Can each boiler be worked separately Yes Area of fire grate in each boiler 602 sq ft No. and Description of Safety Valves to each boiler Double Spring Area of each valve 9.62 sq in Pressure to which they are adjusted 205 Are they fitted with easing gear Yes
 Smallest distance between boilers or uptakes and bunkers or woodwork 30" dia. of boilers 15.0 1/8 Length 12.0 Material of shell plates S
 Thickness 3/8" Range of tensile strength 28-32 Are the shell plates welded or flanged No Descrip. of riveting: cir. seams DR long. seams TRIDBS Diameter of rivet holes in long. seams 17/16" Pitch of rivets 10 Lap of plates or width of butt straps 2 1/8"
 Per centages of strength of longitudinal joint rivets 86.5 Working pressure of shell by rules 208 Size of manhole in shell 16 x 12"
 Size of compensating ring Flanged 1 3/8" No. and Description of Furnaces in each boiler 3 Corrugated Material S Outside diameter 48"
 Length of plain part top _____ bottom _____ Thickness of plates crown 3 5/8" Description of longitudinal joint weld No. of strengthening rings _____
 Working pressure of furnace by the rules 209 Combustion chamber plates: Material S Thickness: Sides 1 1/8" Back 1 1/4" Top 1 1/8" Bottom 1"
 Pitch of stays to ditto: Sides 9 1/4 x 8 1/2" Back 9 3/8 x 8 3/8" Top 8 3/4 x 8 3/4" If stays are fitted with nuts or riveted heads Both Working pressure by rules 212
 Material of stays S Area at smallest part 198 sq in Area supported by each stay 48.6 sq in Working pressure by rules 227 End plates in steam space: Material S Thickness 1 1/4" Pitch of stays 20 1/4 x 16 3/4" How are stays secured ON Working pressure by rules 209 Material of stays S
 Area at smallest part 69 sq in Area supported by each stay 326.8 sq in Working pressure by rules 210 Material of Front plates at bottom S
 Thickness 1 1/8" Material of Lower back plate S Thickness 3/32" Greatest pitch of stays 15 x 8 1/2" Working pressure of plate by rules 218
 Diameter of tubes 2 1/2" Pitch of tubes 3 3/4 x 3 1/16" Material of tube plates S Thickness: Front 1 1/4" Back 7/8" Mean pitch of stays 10 7/64"
 Pitch across wide water spaces 13 1/2" Working pressures by rules 203 Girders to Chamber tops: Material S Depth and thickness of girder at centre 10.17 1/8" Length as per rule 34 7/16" Distance apart 8 3/4" Number and pitch of stays in each 3 at 8 3/4"
 Working pressure by rules 206 Steam dome: description of joint to shell _____ % of strength of joint _____
 Diameter _____ Thickness of shell plates _____ Material _____ Description of longitudinal joint _____ Diam. of rivet holes _____
 Pitch of rivets _____ Working pressure of shell by rules _____ Crown plates _____ Thickness _____ How stayed _____

SUPERHEATER. Type _____ Date of Approval of Plan _____ Tested by Hydraulic Pressure to _____
 Date of Test _____ Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler _____
 Diameter of Safety Valve _____ Pressure to which each is adjusted _____ Is Easing Gear fitted _____

If wet, state whether, and when, one will be sent

In a Report also sent on the Hull of the Ship



IS A DONKEY BOILER FITTED?

Yes

If so, is a report now forwarded?

Yes

SPARE GEAR. State the articles supplied:— metal each of top bottom main bearing & coupling bolts, 1 Impeller shaft, 1 air pump rod, 1 set of rings for each piston, 1 Fake spindle for main engine, 1 pair of top end, 1 one pair of bottom end brasses, 1 screw shaft, 1 set of Feed & Bilge, air pump valves & assorted bar iron & a quantity of bolts & nuts of various sizes.

The foregoing is a correct description,

DUNSMUIR & JACKSON, Limited.

James Fletcher

Manufacturer.

Dates of Survey while building: During progress of work in shops - 1919 Sep 2, 11, 25, 28, Nov 3, 8, 25, 29, Dec 16, 19, 23, 29, 1920 Jan 12, 21, Feb 5, 10, 26, Mar 15, 23, 29, Apr 13, 20, 29; During erection on board vessel - May 3, 13, 23, 24, 28, Jun 4, 9, 17, 21, 29, July 1, 7, 14, Aug 11, Sep 8, 16, 17, 21, 28, Oct 1, 5, 6, 11, 14, 18, 21, 25, Nov 2, 8, 9, 11, 12, 18, 22, 29; Total No. of visits 85.

Is the approved plan of main boiler forwarded herewith? Yes, donkey " " " " forwarded.

Dates of Examination of principal parts: Cylinders 14, 10, 30, Slides 7, 2, 21, Covers 7, 2, 21, Pistons 28, 9, 19, Rods 12, 11, 20, Connecting rods 18, 10, 20, Crank shaft 28, 9, 19, Thrust shaft 28, 9, 19, Tunnel shafts 18, 11, 21, Screw shaft 13, 12, 20, Propeller 27, 1, 21, Stern tube 27, 1, 21, Steam pipes tested 31, 3, 21, Engine and boiler seatings 2, 2, 21, Engines holding down bolts 15, 5, 21, Completion of pumping arrangements 24, 5, 21, Boilers fixed 13, 4, 21, Engines tried under steam 15, 10, 21, Completion of fitting sea connections 14, 2, 21, Stern tube 2, 2, 21, Screw shaft and propeller 14, 2, 21, Main boiler safety valves adjusted 31, 5, 21, Thickness of adjusting washers P 7/16 S 10/32 P 25/64 S 3/4 P 7/16 S 1/2 F 7/16 A 7/16, Material of Crank shaft S, Identification Mark on Do. 519 JS, Material of Thrust shaft S, Identification Mark on Do. 440 YDS, Material of Tunnel shafts S, Identification Marks on Do. 519 WGM, Material of Screw shafts S, Identification Marks on Do. 440 YDS, Material of Steam Pipes Iron, Test pressure 600lb.

Is an installation fitted for burning oil fuel? Yes, Is the flash point of the oil to be used over 150°F? Yes, Have the requirements of Section 49 of the Rules been complied with? Yes, Is this machinery duplicate of a previous case? Yes, If so, state name of vessel S/S Blair Murdoch & Co Ltd.

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 plans & the workmanship & material are of good quality. They have been securely fitted on board & tried under steam & found satisfactory. The machinery is eligible in my opinion to be classed with record of L.M.C. 10.21. (i.e. notation of fitted for oil fuel F.P. above 150°F 10.21).

It is submitted that this vessel is eligible for THE RECORD. F.L.M.C.-10.21. F.D. C.L.

Fitted for Oil Fuel F.P. above 150°F

The amount of Entry Fee ... £ 6 : 0 : 0, Special ... £ 108 : 1 : 0, Donkey Boiler Fee ... £ 4 : 4 : 0, Travelling Expenses (if any) £ - : 10 : -

When applied for, 25.10.1921

When received, 27.10.1921

W. Gordon-Munro

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 25 OCT 1921

Assigned + LMC 10.21

MACHINERY CERTIFICATE WRITTEN 11/21

FRI JUN 16 1922

TUE MAR 28 1922

Fitted for oil fuel 10.21 F.P. above 150°F

FRI OCT 20 1922

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