

## REPORT ON MACHINERY

No. 45151

11 NOV 1925

Date of writing Report 30-10-1925 When handed in at Local Office 10-11-1925 Port of Glasgow

No. in Survey held at Coatbridge & Glasgow Date, First Survey 29<sup>th</sup> April 1924 Last Survey 24<sup>th</sup> Oct 1925  
Reg. Book. on the Engine No. 611. (Number of Visits 19)

Master Built at Salt Bommel By whom built The James Muir & Co. S. B. Co. Tons Gross Net  
Engines made at Coatbridge By whom made Wm. Beardmore & Co. (611) when made 1924  
Boilers made at Glasgow By whom made Wm. Beardmore & Co. (178) when made 1924  
Registered Horse Power Owners The James Muir & Co. Ltd. Port belonging to  
Nom. Horse Power as per Section 28 110 Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted

ENGINES, &c.—Description of Engines Triple Expansion No. of Cylinders 3 No. of Cranks 3  
Dia. of Cylinders 15", 20", 40" Length of Stroke 27" Revs. per minute Dia. of Screw shaft as per rule as fitted Material of screw shaft  
Is the screw shaft fitted with a continuous liner the whole length of the stern tube Is the after end of the liner made water tight in the propeller boss 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  
Dia. of Tunnel shaft as per rule 7.45" as fitted Dia. of Crank shaft journals as per rule 7.825" as fitted Dia. of Crank pin 8" Size of Crank webs 5" x 15 1/2" Dia. of thrust shaft under collars 8" Dia. of screw Pitch of Screw No. of Blades State whether moveable Total surface  
No. of Feed pumps 2 Diameter of ditto 3" Stroke 13 1/2" Can one be overhauled while the other is at work  
No. of Bilge pumps 2 Diameter of ditto 3" Stroke 13 1/2" Can one be overhauled while the other is at work  
No. of Donkey Engines Sizes of Pumps No. and size of Suctions connected to both Bilge and Donkey pumps  
In Engine Room 3 In Holds, &c.

No. of Bilge Injections sizes Connected to condenser, or to circulating pump Is a separate Donkey Suction fitted in Engine room & size  
Are all the bilge suction pipes fitted with roses Are the roses in Engine room always accessible Are the sluices on Engine room bulkheads always accessible  
Are all connections with the sea direct on the skin of the ship Are they Valves or Cocks  
Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates Are the Discharge Pipes above or below the deep water line  
Are they each fitted with a Discharge Valve always accessible on the plating of the vessel Are the Blow Off Cocks fitted with a spigot and brass covering plate  
What pipes are carried through the bunkers How are they protected  
Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times  
Are the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges  
Is the Screw Shaft Tunnel watertight Is it fitted with a watertight door worked from

BOILERS, &amp;c.—(Letter for record 3) Manufacturers of Steel Plates Wm. Beardmore &amp; Co. Ltd. Rounch David Colville &amp; Sons Ltd.

Total Heating Surface of Boilers 1980 sq. ft. Is Forced Draft fitted No. and Description of Boilers 1 SB One single inclined, return tubes  
Working Pressure 180 lbs. Tested by hydraulic pressure to 320 lbs. Date of test 27-8-24 No. of Certificate 16587  
Can each boiler be worked separately Area of fire grate in each boiler 50 sq. ft. No. and Description of Safety Valves to each boiler 2 - Direct spring Area of each valve 7.06 sq. in. Pressure to which they are adjusted 180 lbs. Are they fitted with easing gear  
Smallest distance between boilers or uptakes and bunkers or woodwork 30" Mean dia. of boilers 14.0" Length 11.6" Material of shell plates Steel  
Thickness 1 1/2" Range of tensile strength 28/32 tons Are the shell plates welded or flanged No Descrip. of riveting: cir. seams D.R.  
long. seams T.R.D.B.S. Diameter of rivet holes in long. seams 1 1/4" Pitch of rivets 8 7/8" Lap of plates or width of butt straps 18 1/2"  
Per centages of strength of longitudinal joint rivets 85.7 Working pressure of shell by rules 180 lbs. Size of manhole in shell 15 1/2" x 19 1/2"  
Size of compensating ring 2-10 x 2-6 x 1 1/2" No. and Description of Furnaces in each boiler 2 Brighton Material steel Outside diameter 4-4 1/4"  
Length of plain part top bottom Thickness of plates crown 5/8" bottom 5/8" Description of longitudinal joint welded No. of strengthening rings  
Working pressure of furnace by the rules 185 lbs. Combustion chamber plates: Material steel Thickness: Sides 2 1/2" Back 2 1/2" Top 2 1/2" Bottom 1 5/8"  
Pitch of stays to ditto: Sides 8 1/2" x 9 1/2" Back 8 1/2" x 9 1/2" Top 8 1/2" x 9 1/2" If stays are fitted with nuts or riveted heads Working pressure by rules 180 lbs.  
Material of stays steel Area at smallest part 1 1/8" x 2" Area supported by each stay 83.5 sq. in. Working pressure by rules 182 lbs. End plates in steam space:  
Material steel Thickness 1 1/2" Pitch of stays 20" x 17 1/2" How are stays secured double nut Working pressure by rules 180 lbs. Material of stays steel  
Area at smallest part 2 1/4" x 3" Area supported by each stay 306 sq. in. Working pressure by rules 180 lbs. Material of Front plates at bottom steel  
Thickness 7/8" Material of Lower back plate steel Thickness 3/4" Greatest pitch of stays 24" Working pressure of plate by rules 180 lbs.  
Diameter of tubes 3 1/2" Pitch of tubes 4 1/4" x 4 5/8" Material of tube plates steel Thickness: Front 7/8" Back 3/4" Mean pitch of stays 11"  
Pitch across wide water spaces 1 1/4" Working pressures by rules 181 lbs. Girders to Chamber tops: Material steel Depth and thickness of girder at centre 2-8 1/8" x 7/8" Length as per rule 2-10 Distance apart 9 1/4" Number and pitch of stays in each 3 - 8 1/4"  
Working pressure by rules 200 lbs. 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



IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:—

The foregoing is a correct description,

WILLIAM BEARDMORE & CO., LIMITED,

Manufacturer.

Dates of Survey while building { During progress of work in shops - - 1924 Apr 29 May 26-29 June 4 19 July 1-30 Aug 23-29 Sep 16 Oct 6-16 21 Nov 12-19  
During erection on board vessel - - - 1925 Sep 21-23 Oct 24. (Boiler 1924 Sep 14-17 May 1-15-23-26 June 2-26 July 9-14-16 Aug 15-27)  
Total No. of visits E. 19 R. 14.

Is the approved plan of main boiler forwarded herewith

" " " donkey " " " "

Dates of Examination of principal parts—Cylinders 15-10-24 Slides 15-10-24 Covers 15-10-24 Pistons 30-7-24 Rods 29-8-24

Connecting rods 29-8-24 Crank shaft 22-8-24 Thrust shaft 27-10-25 Tunnel shafts Screw shaft Propeller

Stern tube Steam pipes tested Engine and boiler seatings Engines holding down bolts

Completion of pumping arrangements Boilers fixed Engines tried under steam

Completion of fitting sea connections Stern tube Screw shaft and propeller

Main boiler safety valves adjusted Thickness of adjusting washers

Material of Crank shaft Identification Mark on Do. Material of Thrust shaft Identification Mark on Do.

Material of Tunnel shafts Identification Marks on Do. Material of Screw shafts Identification Marks on Do.

Material of Steam Pipes Test pressure

Is an installation fitted for burning oil fuel 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 If so, state name of vessel HOPPER - No 32433. Glasgow Repal. No 44416.

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

The Engine & Boiler have been constructed under Special Survey in accordance with the approved Plan & Rules.

The materials and workmanship are good.

The machinery which has been dispatched to the, The James Meyer Shipbuilding Company, Zalt Bommel, Holland, will be eligible in my opinion, for notation + L.M.C. with date, when the machinery has been efficiently fitted on board the vessel and tried under working conditions with satisfactory results.

The amount of Entry Fee £ 11 : 0 :  
Special ... £ 4 :  
Donkey Boiler Fee ... £  
Travelling Expenses (if any) £

When applied for, 10 NOV 1925

When received, 20/2/26

Committee's Minute

Assigned

Deferred

Engineer Surveyor to Lloyd's Register of Shipping.

FRI. 6 AU. 1925

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