

# REPORT ON MACHINERY.

Received at London Office

WED. 20 AUG. 1919

Date of writing Report

19

When handed in at Local Office

15th August 1919

Port of

Greenock

No. in Reg. Book

Survey held at Port-Glasgow + Glasgow

Date, First Survey 19th April, 1918

Last Survey 13th August 1919

on the Steel Screw Steamship "Backworth"

(Number of Visits 70)

Tons } Gross 2481.39  
Net 1441.97

Master A. Colvin

Built at Port-Glasgow

By whom built Dunlop, Bremner & Co. Ltd.

When built 1919

Engines made at Port-Glasgow

By whom made Dunlop, Bremner & Co. Ltd.

when made 1919

Boilers made at Glasgow

By whom made D. Brown & Co. Limited

when made 1919

Registered Horse Power 175.5

Owners The Robert Stanley Shipping Co. Ltd.

Port belonging to Newcastle on Tyne

Nom. Horse Power as per Section 28 262

Is Refrigerating Machinery fitted for cargo purposes No

Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines Inverted, direct acting, triple, Centrif. No. of Cylinders 3 No. of Cranks 3

Dia. of Cylinders 22" 36" + 49" Length of Stroke 39" Revs. per minute 70 Dia. of Screw shaft 12.45" Material of screw shaft Steel

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 No 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 No If two

liners are fitted, is the shaft lapped or protected between the liners No Length of stern bush 4'-10"

Dia. of Tunnel shaft 10.94" Dia. of Crank shaft journals 11.39" Dia. of Crank pin 1 3/4" Size of Crank webs 22 1/2" x 7 1/2" Dia. of thrust shaft under

collars 12" Dia. of screw 1 5/8" Pitch of Screw 1 5/8" No. of Blades 4 State whether moveable No Total surface 77 sq ft.

No. of Feed pumps 2 Diameter of ditto 3" Stroke 24" Can one be overhauled while the other is at work Yes

No. of Bilge pumps 2 Diameter of ditto 3 1/2" Stroke 24" Can one be overhauled while the other is at work Yes

No. of Donkey Engines 5 Sizes of Pumps 2 Simple 8 x 6 x 1 1/2" 2 Simple 10 x 12 x 1 1/2" 1 Simple 10 x 12 x 1 1/2" 1 Simple 10 x 12 x 1 1/2" No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room Two 3", two 3 1/2" + one 2 1/2" in tunnel In Holds, &c. Fore hold, two 3"; fore main hold, two 3";

Aft main hold, two 3" and after hold, two 3"

No. of Bilge Injections one size 9 1/2" Connected to condenser, or to circulating pump C.P. Is a separate Donkey Suction fitted in Engine room & size yes, 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

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 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 None How are they protected Yes

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 Compass lip platform

BOILERS, &c.—(Letter for record S.) Manufacturers of Steel A. Colville & Sons Limited

Total Heating Surface of Boilers 4426 sq ft Is Forced Draft fitted No No. and Description of Boilers Two, single ended. All as

Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs Date of test 21.2.19 No. of Certificate 35991, Glasgow

Can each boiler be worked separately Yes Area of fire grate in each boiler 62 sq ft No. and Description of Safety Valves to

each boiler Two spring loaded Area of each valve 8.29 sq in Pressure to which they are adjusted 184 lbs Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork 2'-6" Mean dia. of boilers 15'-6" Length 10'-6" Material of shell plates Steel

Thickness Range of tensile strength Are the shell plates welded or flanged Descrip. of riveting: cir. seams

long. seams Diameter of rivet holes in long. seams Pitch of rivets Lap of plates or width of butt straps

Per centages of strength of longitudinal joint rivets Working pressure of shell by rules 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 crown 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 Area 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

Area 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 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

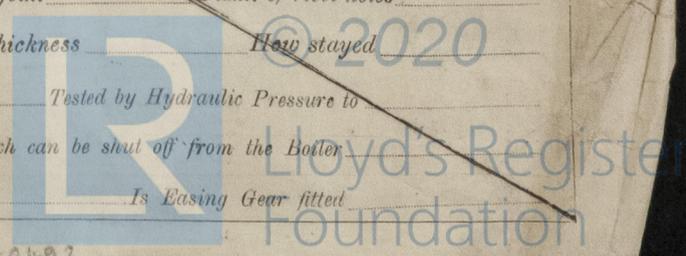
Pitch of rivets Working pressure of shell by rules Crown plates Thickness How stayed

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

Dunlop Bremner & Co. Ltd. (No. 335)



IS A DONKEY BOILER FITTED?

Yes.

If so, is a report now forwarded?

Yes, No. 3867.

SPARE GEAR. State the articles supplied:—

Two connecting rod lip end bolts nuts, two connecting rod bottom end bolts nuts, two main bearing bolts nuts, three crank shaft bolts nuts, three tunnel shaft bolts nuts, the set of feed and bilge pump valves, the set air pump valves, one solid iron propeller, two main boiler safety valve springs, 58 furnace bars, a quantity of assorted bolts nuts, and iron of various sizes.

The foregoing is a correct description,  
DUNLOP, BREMNER & COY. LIMITED.

Thos Paton

Manufacturer.

Dates of Survey while building: During progress of work in shops - - (1918) Apr 17-22-24-30 May 1-3-28 June 4-11-18-24 July 1-16-20-22-26-27-31 Aug 1-7-8-9-20-27 Oct 3-7-21-24-28-30 Sept 2-5-10-30  
During erection on board vessel - - - 8-18-19-22-27 Dec. 9-11-16 (Jan) 4-13-17-24 Feb 7-11 Mar 27 Apr 2-18-21-24-29 May 6-21-30 June 10-19 July 13-21-29-30 Aug 1-5  
Total No. of visits 70.

Is the approved plan of main boiler forwarded herewith

" " " donkey " " "

Dates of Examination of principal parts—Cylinders 8-8-18 Slides 11-12-18 Covers 9-8-18 Pistons 11-12-18 Rods 2-9-18

Connecting rods 5-9-18 Crank shaft 5-9-18 Thrust shaft 2-9-18 Tunnel shafts 2-2-19 Screw shaft 10-9-18 Propeller 2-4-19

Stern tube 2-4-19 Steam pipes tested 30-7-19 Engine and boiler seatings 6-5-19 Engines holding down bolts 21-7-19

Completion of pumping arrangements 28-7-19 Boilers fixed 28-7-19 Engines tried under steam 1-8-19

Completion of fitting sea connections 6-5-19 Stern tube 30-5-19 Screw shaft and propeller 10-6-19

Main boiler safety valves adjusted 1-8-19 Thickness of adjusting washers Pt. A 3/16, 5/16; St. Bl. 3/32, 5/32

Material of Crank shaft J. Steel Identification Mark on Do. 305 Material of Thrust shaft J. Steel Identification Mark on Do. 305

Material of Tunnel shafts J. Steel Identification Marks on Do. 305 Material of Screw shafts J. Steel Identification Marks on Do.

Material of Steam Pipes Steel Test pressure 600 lbs per sq inch

Is an installation fitted for burning oil fuel Yes 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 Yes If so, state name of vessel. "H type" Standard.

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

The Machinery and Boilers of this vessel have been constructed under Special Survey and placed on board in accordance with the Society's Rules. They are in my opinion in safe working condition and respectfully submitted for the Certification + L.M.C. 8.19. in Register Book.

It is submitted that this vessel is eligible for THE RECORD + L.M.C. 8.19.

J.W.D. 22/8/19

G.R.R.

Graham Robertson

Engineer Surveyor to Lloyd's Register of Shipping.

The amount of Entry Fee ... £ 2 : 0 : When applied for,

Special ... £ 33 : 2 : 15. Aug. 1919.

Donkey Boiler Fee ... £ 2 : 10 : 0 When received.

Travelling Expenses (if any) ... £ 7 : 19 : 0

Committee's Minute GLASGOW 19 AUG 1919

Assigned + L.M.C. 8.19

MACHINERY CERTIFICATE WRITTEN. 20/8/19



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