

## REPORT ON MACHINERY.

No. 39517

WED. 17 JAN 1920

Received at London Office

Date of writing Report Dec 31<sup>st</sup> 1919 When handed in at Local Office Jan 3<sup>rd</sup> 1920 Port of GLASGOW.No. in Survey held at Reg. Book. on the machinery of S/S "BONAWE" Date, First Survey 5<sup>th</sup> June 1919. Last Survey Dec 24<sup>th</sup> 1919. (Number of Visits 20.)

Master D. S. Hannah Built at Bowling By whom built Scott &amp; Sons (284) Tons { Gross 357 Net 139 When built 1919.

Engines made at Paisley By whom made Fishers &amp; Co (222) when made 1919.

Boilers made at Paisley By whom made A. &amp; Craig &amp; Co Ltd (644) when made 1919.

Registered Horse Power Owners J. &amp; A. Gardiner &amp; Co Ltd. Port belonging to Glasgow

Nom. Horse Power as per Section 28 70 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted No

ENGINES, &amp;c.—Description of Engines Compound Expansion No. of Cylinders 2 No. of Cranks 2

Dia. of Cylinders 15" - 34" Length of Stroke 24" Revs. per minute 114 Dia. of Screw shaft as per rule 4.23 7/16 Material of screw shaft as fitted 4.5. screw shaft

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 Yes If two

liners are fitted, is the shaft lapped or protected between the liners Yes Length of stern bush 30"

Dia. of Tunnel shaft as per rule 6.51 Dia. of Crank shaft journals as per rule 4.03 6.85 Dia. of Crank pin 4 1/4 Size of Crank webs 13 1/2 x 5 1/4 Dia. of thrust shaft under

collars 4 1/4" Dia. of screw 8' 6" Pitch of Screw 10' 9" No. of Blades 4 State whether moveable no Total surface 24.5 sq ft

No. of Feed pumps One Diameter of ditto 2 1/2" Stroke 12" Can one be overhauled while the other is at work Yes

No. of Bilge pumps One Diameter of ditto 2 1/2" Stroke 12" Can one be overhauled while the other is at work Yes

No. of Donkey Engines One Sizes of Pumps 6" No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room Two @ 2" Boiler Room Two @ 2" In Holds, &amp;c. Two at 2" diam. One @ 2" for end

One @ 2" aft peak.

No. of Bilge Injections 1 sizes 3" Connected to condenser, or to circulating pump pump Is a separate Donkey Suction fitted in Engine room &amp; size Yes 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 Yes

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 Forward Suctions How are they protected Wood Casing

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 None Is it fitted with a watertight door worked from

BOILERS, &amp;c.—(Letter for record S) Manufacturers of Steel D. Colvill &amp; Sons, Glasgow Iron &amp; Steel Co. I.S.B.

Total Heating Surface of Boilers 1388 sq ft Is Forced Draft fitted No No. and Description of Boilers one single ended.

Working Pressure 130 Tested by hydraulic pressure to 260 Date of test 31. 10. 19 No. of Certificate 14964

Can each boiler be worked separately Yes Area of fire grate in each boiler 42 sq ft No. and Description of Safety Valves to

each boiler 2 Spring loaded Area of each valve Pressure to which they are adjusted Are they fitted with easing gear

Smallest distance between boilers or uptakes and bunkers or woodwork Mean dia. of boilers 12' 6" Length 16' 0" Material of shell plates S

Thickness 25/32" Range of tensile strength Are the shell plates welded or flanged Description of meeting: 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 Rpt. 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

W1644-0037



IS A DONKEY BOILER FITTED?

No

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:—

Two connecting rod top end bolts Two connecting rod bottom end bolts  
Two main bearing bolts. 1 set of coupling bolts. 1 set of feed and bilge pump  
valves. 1 set of piston springs. A quantity of assorted bolts and nuts  
Iron of various sizes

The foregoing is a correct description,

FISHERS LIMITED.

Attestation *Lieut.*

MANAGER DIRECTOR

Manufacturer.

Dates of Survey while building { During progress of work in shops -- 1919 June 5-23 Aug 5 Sept 11-23 Oct 6-10 22-24 31 Nov 11-14 12-18 24 Dec 5-11 15 23-24  
During erection on board vessel --  
Total No. of visits 20

Is the approved plan of main boiler forwarded herewith

" " " donkey " " "

Dates of Examination of principal parts—Cylinders 10.10.19 Slides 10.10.19 Covers 18.11.19 Pistons 10.10.19 Rods 10.10.19

Connecting rods 10.10.19 Crank shaft 29.4.19 Thrust shaft 12.11.19 Tunnel shafts none Screw shaft 12.11.19 Propeller 12.11.19

Stern tube 12.11.19 Steam pipes tested 15/12/19 Engine and boiler seatings 24/11/19 Engines holding down bolts 11/12/19

Completion of pumping arrangements 11/12/19 Boilers fixed 11/12/19 Engines tried under steam 24/12/19

Completion of fitting sea connections 24/11/19 Stern tube 24/11/19 Screw shaft and propeller 24/11/19

Main boiler safety valves adjusted 23/12/19 Thickness of adjusting washers PV 3/32 SV 3/32

Material of Crank shaft S Identification Mark on Do. LEITH 4853 J.R.H. Material of Thrust shaft Iron Identification Mark on Do.

Material of Tunnel shafts none Identification Marks on Do. Material of Screw shafts Iron Identification Marks on Do.

Material of Steam Pipes Copper Test pressure 260 lbs sq

Is an installation fitted for burning oil fuel No 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 "St Barchan"

General Remarks (State quality of workmanship, opinions as to class, &c. The engines and boiler have been built under Special Survey in accordance with approved plans and the Rules of the Society

The materials and workmanship are good

The machinery has been securely fitted on board the vessel and tried under steam with satisfactory results.

It is now eligible in my opinion to have notification of + LMC 12-19 in the Register Book.

It is submitted that this vessel is eligible for THE RECORD + L.M.C. 12-19.

9/1/20

The amount of Entry Fee ... £ 1 : :  
Special ... £ 58 : 18 :  
Donkey Boiler Fee ... £ : :  
Travelling Expenses (if any) £ : :  
When applied for, 6.1.19 20.  
When received, 17.1.19 20

H. Fraser

D. C. Barr

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 6-JAN 1920

Assigned + LMC 12, 19

MACHINERY CERT.  
WRITTEN 7/1/20



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