

## REPORT ON MACHINERY.

No. 34479.

Received at London Office WED. OCT. 21. 1914

Date of writing Report 19. 10. 1914 When handed in at Local Office

Port of Glasgow.

No. in Survey held at Troon.  
Reg. Book.

Date, First Survey 27. 3. 14 Last Survey 16. 10. 1914.

(Number of Visits 31.)

Gross 1337

Net 660.

Master Geo. Knowles Field Built at Troon.

By whom built Ailsa S.B. Co. Ltd. (No. 288) When built 1914.

Engines made at Troon.

By whom made Ailsa S.B. Co. Ltd. (No. 45) when made 1914.

Boilers made at Glasgow

By whom made Dunsmuir &amp; Jackson (No. B 29.) when made 1914.

Registered Horse Power

Owners General S. N. Co. Ltd.

Port belonging to London.

Nom. Horse Power as per Section 28 266

Is Refrigerating Machinery fitted for cargo purposes No.

Is Electric Light fitted yes.

ENGINES, &amp;c.—Description of Engines Triple Expansion, Surface Condensing No. of Cylinders 3 No. of Cranks 3

Dia. of Cylinders 22'-35'-59" Length of Stroke 39" Revs. per minute 83 Dia. of Screw shaft as per rule 11.825" Material of screw shaft iron

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

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

Length of stern bush 5'-5 1/2"

Dia. of Tunnel shaft as per rule 10.8" Dia. of Crank shaft journals as per rule 11.33" Dia. of Crank pin 11 3/8" Size of Crank webs 21 3/8" x 7 1/2" Dia. of thrust shaft under

collars 11 3/8" Dia. of screw 14'-0" Pitch of Screw 16'-9" No. of Blades 4 State whether moveable No. Total surface 61.5 sq. ft.

No. of Feed pumps 2 Diameter of ditto 3 1/2" Stroke 19 1/2" Can one be overhauled while the other is at work yes.

No. of Bilge pumps 2 Diameter of ditto 3 1/2" Stroke 19 1/2" Can one be overhauled while the other is at work yes.

No. of Donkey Engines 7 Sizes of Pumps 32 6" x 8" 2 6" x 6" 12 6" x 8" 8" No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room 10 2 1/4", 10 4" + 10 2 1/2" In Holds, &amp;c. 18 1" hold 20 2 1/4", 10 2" hold 2-2 1/4"

No. of Bilge Injections 1 sizes 7" Connected to condenser, or to circulating pump pump Is a separate Donkey Suction fitted in Engine room &amp; size yes-4"

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 none

Are all connections with the sea direct on the skin of the ship yes. Are they Valves or Cocks Both valves &amp; cocks.

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 Bilge pipes How are they protected 3' 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.

Dates of examination of completion of fitting of Sea Connections And of Stern Tube and Screw shaft and Propeller 10. 8. 14.

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

Total Heating Surface of Boilers 4516 sq. ft. Is Forced Draft fitted No. No. and Description of Boilers 2 Scotch. Multitubular.

Working Pressure 180 lb. Tested by hydraulic pressure to 360 lb. Date of test 6. 8. 14. No. of Certificate 12830.

Can each boiler be worked separately yes. Area of fire grate in each boiler 63 sq. ft. No. and Description of Safety Valves to

each boiler 2 spring loaded. Area of each valve 7.06 sq. ft. Pressure to which they are adjusted 185 lb. Are they fitted with easing gear yes.

Smallest distance between boilers or uptakes and bunkers or woodwork 9" Mean dia. of boilers Length Material of shell plates

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 End plates in steam space:

Material of stays Diameter at smallest part Area supported by each stay Working pressure by rules Material of stays

Material Thickness Pitch of stays How are stays attached Working pressure by rules Material of Front plates at bottom

Diameter at smallest part Area supported by each stay Working pressure by rules Working pressure of plate by rules

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 Superheater or Steam chest; how connected to boiler Can the superheater be shut off and the boiler worked

separately Length Thickness of shell plates Material Description of longitudinal joint Diam. of rivet

holes See Pitch of rivets Working pressure of shell by rules Diameter of flue Material of flue plates Thickness

If stiffened 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

WS98-0124

Lloyd's Register Foundation



# 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 easing 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:—Two connecting rod top end & 2 bottom end bolts & nuts, 2 main bearing bolts, 1 set coupling bolts, 1 set of feed & bilge pump valves, 1 set of piston springs, a quantity of assorted bolts & nuts, iron of various sizes, 1 propeller & tail shaft, 1 guide shoe, 1 air pump rod & head valve, & other spare gear.

The foregoing is a correct description,

W. S. Watson Manufacturer.

Dates of Survey while building

During progress of work in shops -- 1914 Mar 27. Apr 6. 10. 27. 29. May 4. 8. 20. 26 June 8. 15 July 9. 29. Aug 4. 7. 10. 18. 25. 31 Sept 4. 8. 11. 21. 25. 29. 30

During erection on board vessel --- Oct 5. 8. 10. 13. 16

Total No. of visits 31.

Is the approved plan of main boiler forwarded herewith ✓

“ “ “ donkey “ “ “ ✓

Dates of Examination of principal parts—Cylinders 29. 7. 14. Slides 4. 8. 14. Covers 25. 8. 14. Pistons 4. 8. 14. Rods 4. 8. 14.

Connecting rods 4. 8. 14. Crank shaft 9. 7. 14. Thrust shaft 9. 7. 14. Tunnel shafts none Screw shaft 9. 7. 14. Propeller 10. 8. 14.

Stern tube 20. 5. 14. Steam pipes tested 5. 10. 14. Engine and boiler seatings 29. 7. 14. Engines holding down bolts 29. 9. 14.

Completion of pumping arrangements 13. 10. 14. Boilers fixed 29. 9. 14. Engines tried under steam 16. 10. 14.

Main boiler safety valves adjusted 10. 10. 14. Thickness of adjusting washers S. Boiler P.W. = 5/8" S.W. = 7/16" P. Boiler S.W. = 7/16"

Material of Crank shaft Steel Identification Mark on Do. No 45. Material of Thrust shaft Steel Identification Mark on Do. 45.

Material of Tunnel shafts none Identification Marks on Do. ✓ Material of Screw shafts iron Identification Marks on Do. 45.

Material of Steam Pipes wrought iron ✓ Test pressure 540 lbs per sq. in. ✓

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

The engines have been built under Special Survey, fitted on board along with the boilers, & satisfactorily tried under steam.

The machinery is eligible in my opinion to be classed + L.M.C. 10. 14.

It is submitted that this vessel is eligible for THE RECORD. + L.M.C. 10. 14.

FWD. 22/10/14

J.R.R.

The amount of Entry Fee .. £ 2 : - : When applied for, 29/10/14

Special .. 21-12 : - : When received, 21/10/14

Donkey Boiler Fee .. £ - : - : 21/10/14

Travelling Expenses (if any) £ 2 : 18 : - : 21/10/14

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

Committee's Minute Assigned + L.M.C. 10. 14.

Lloyd's Register Foundation

GLASGOW

Certificate (if required) to be sent to

(The Surveyors are requested not to write on or below the space for Committee's Minute.)

22/10/14