

## REPORT ON MACHINERY.

No. 22989

Port of Glasgow

JULY 25 1905

Received at London Office

19

No. in Survey held at Glasgow  
Reg. Book.Date, first Survey 23<sup>rd</sup> Jan'yLast Survey 12<sup>th</sup> July 1905

(Number of Visits)

on the S.S. "Ashburton"Tons <sup>Gross</sup>  
<sub>Net</sub>

Master

Built at GlasgowBy whom built D. W. Henderson & Co. Ltd.

When built

1905Engines made at GlasgowBy whom made D. W. Henderson & Co. Ltd.

when made

1905Boilers made at GlasgowBy whom made D. W. Henderson & Co. Ltd.

when made

1905Registered Horse Power 485Owners Bethell & Co.Port belonging to LondonNom. Horse Power as per Section 28 485Is Refrigerating Machinery fitted for cargo purposes noIs Electric Light fitted yes

## ENGINES, &amp;c.—Description of Engines

Triple CompoundNo. of Cylinders 3No. of Cranks 3Dia. of Cylinders 26. 44. 73Length of Stroke 48"Revs. per minute 75

Dia. of Screw shaft

as per rule 14.9

Material of

as fitted 15.34

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 yesIf the liner is in more than one length are the joints burned one length

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 yesLength of stern bush 6'-6"

Dia. of Tunnel shaft

as per rule 13.5.6as fitted 14.16

Dia. of Crank shaft journals

as per rule 14.2as fitted 14.34Dia. of Crank pin 15"Size of Crank webs 19 1/2 x 9

Dia. of thrust shaft under

collars 14 3/4"Dia. of screw 8.0"Pitch of screw 17' 9"No. of blades 4State whether moveable yesTotal surface 96 sq ftNo. of Feed pumps 2Diameter of ditto 4 1/4"Stroke 27"Can one be overhauled while the other is at work yesNo. of Bilge pumps 2Diameter of ditto 4 1/4"Stroke 27"Can one be overhauled while the other is at work yesNo. of Donkey Engines 4

Sizes of Pumps

(1) 10 1/2 x 15 (1) 5 x 3 1/2 x 6

No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room Two 3 1/2"In Holds, &c. Forward 2 in each hold 3 1/2" diaaft 2 in each hold 3 1/2" dia & 1 in tunnel with 2 1/2"No. of bilge injections 1sizes 7 1/2"Connected to condenser, or to circulating pump pumpIs a separate donkey suction fitted in Engine room & size yes 2 1/2"Are all the bilge suction pipes fitted with roses yesAre the roses in Engine room always accessible yesAre the sluices on Engine room bulkheads always accessible noneAre all connections with the sea direct on the skin of the ship yesAre they Valves or Cocks bothAre they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates yesAre the discharge pipes above or below the deep water line aboveAre they each fitted with a discharge valve always accessible on the plating of the vessel yesAre the blow off cocks fitted with a spigot and brass covering plate yesWhat pipes are carried through the bunkers forward bilge pipesHow are they protected wood casingAre all pipes, cocks, valves, and pumps in connection with the machinery and all boiler mountings accessible at all times yesAre the bilge suction pipes, cocks, and valves arranged so as to prevent any communication between the sea and the bilges yesWhen were stern tube, propeller, screw shaft, and all connections examined in dry dock before launchIs the screw shaft tunnel watertight yesIs it fitted with a watertight door yesworked from upper platform

## BOILERS, &amp;c.—

(Letter for record S)Total Heating Surface of Boilers 6637 sq ftIs forced draft fitted yesNo. and Description of Boilers 3 single ended return tubeWorking Pressure 200 lbsTested by hydraulic pressure to 400 lbsDate of test 12/6/05Can each boiler be worked separately yesArea of fire grate in each boiler 57 3/4"

No. and Description of safety valves to

each boiler 2 spring loadedArea of each valve 11.07 sq inPressure to which they are adjusted 205 lbsAre they fitted with easing gear yesSmallest distance between boilers or uptakes and bunkers or woodwork 16"Mean dia. of boilers 14.9Length 11.6'Material of shell plates steelThickness 1 1/2"Range of tensile strength 28-32Are they welded or flanged noDescrip. of riveting: cir. seams double laplong. seams table buttDiameter of rivet holes in long. seams 1 1/2"Pitch of rivets 10"Lap of plates on width of butt straps 21 3/4"

Per centages of strength of longitudinal joint

rivets 87.5plate 56.0Working pressure of shell by rules 230 lbsSize of manhole in shell 16 x 12"Size of compensating ring 28 x 32"No. and Description of Furnaces in each boiler 3 DeightonMaterial steel

Length of plain part

top 1 1/2"bottom 1 1/2"

Thickness of plates

crown 3 1/2"bottom 3 1/2"Description of longitudinal joint weldedNo. of strengthening rings 4Working pressure of furnace by the rules 230 lbsCombustion chamber plates: Material steelThickness: Sides 5/8"Back 5/8"Top 5/8"Pitch of stays to ditto: Sides 7 3/4 x 7 3/4"Back 7 3/4 x 7 3/4"Top 7 3/4 x 7 3/4"If stays are fitted with nuts or riveted heads nutsWorking pressure by rules 224 lbsMaterial of stays steelDiameter at smallest part 1.69"Area supported by each stay 60 sq inWorking pressure by rules 225 lbsMaterial of stays steelMaterial steelThickness 1 3/32"Pitch of stays 15 1/2"How are stays secured 27.75Working pressure by rules 235 lbsMaterial of Front plates at bottom steelDiameter at smallest part 5.79"Area supported by each stay 240 sq inWorking pressure by rules 240 lbsMaterial of Lower back plate steelThickness 1"Material of Lower back plate steelThickness 3/32"Greatest pitch of stays 13"Working pressure of plate by rules 267Diameter of tubes 2 1/2"Pitch of tubes 3 1/4 x 3 3/8"Material of tube plates steelThickness: Front 1 1/32 x 1"Back 1 1/16"Mean pitch of stays 8 3/4"Pitch across wide water spaces 14"Working pressures by rules 335 & 216Girders to Chamber tops: Material steel

Depth and

thickness of girder at centre 7 1/2 x 1 1/4"Length as per rule 30"Distance apart 7 3/4"Number and pitch of Stays in each three 7 1/2"

Can the superheater be shut off and the boiler worked

Working pressure by rules 212 lbsSuperheater or Steam chest; how connected to boiler none

Are they fitted with easing gear

separately

Diameter

Length

Thickness of shell plates

Material

Description of longitudinal joint

Diam. of rivet

holes

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

W470-0135

Lloyd's Register  
Foundation



DONKEY BOILER— No. Description *none*

Made at By whom made When made Where fixed  
Working pressure tested by hydraulic pressure to No. of Certificate Fire grate area Description of safety valves  
No. of safety valves Area of each Pressure to which they are adjusted 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 Thickness of shell crown plates Radius of do. No. of Stays to do.  
Dia. of stays. Diameter of furnace Top Bottom Length of furnace Thickness of furnace plates Description of  
joint Thickness of furnace crown plates Stayed by Working pressure of shell by rules  
Working pressure of furnace by rules Diameter of uptake Thickness of uptake plates Thickness of water tubes

SPARE GEAR. State the articles supplied:— 2 connecting rod top end bolts & nuts, 2 bottom end bolts & nuts, 2 main bearing bolts, 6 coupling bolts, 1 set of piston packing pump for each cylinder, 1 set of feed & bilge pump valves & seats, bolts & nuts & washers of various sizes, 1 Propeller shaft, 1 piece crank, 4 Propeller blades  
The foregoing is a correct description,

Manufacturer.

DAVID & WILLIAM HENDERSON & CO., LIMITED

Director.

Dates of Survey while building  
During progress of work in shops— 1905: Jan. 23 Feb. 14 28 Mar. 1 10 15 Apr. 12 17 27 May 1  
During erection on board vessel— 4. 9. 22 June 3 6 12 16 19 22 July 1 5 7 10 12  
Total No. of visits 24

Is the approved plan of main boiler forwarded herewith *yes*

General Remarks (State quality of workmanship, opinions as to class, &c. *These engines and boilers have been built under special survey, the materials and workmanship are of good description, they have been well fitted on board and tried under steam*)

*This machinery is now in my opinion eligible to have notification of LMC 7.05. in the Register Book.*

*It is submitted that this vessel is eligible for THE RECORD + LMC 7.05.*

*Geo. Light*

*26.7.05*

*27.7.05*

The amount of Entry Fee. £ 3: : When applied for,  
Special £ 44: 5: 24 JUL 1905  
Donkey Boiler Fee £ : :  
Travelling Expenses (if any) £ : : When received,  
27.7.05

Committee's Minute Glasgow 24 JUL 1905

Assigned *1- L. M. 6 7.05*  
*90/100 for 100*

*A. M. McLeod*  
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

TUES. 3 APR 1906

FRI. 11 OCT 1907

FRI. 29 MAY 1908

TUES. 10 NOV 1908

EDI 13 MAY 1906  
TUES. 1 DEC 1906

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