

REPORT ON MACHINERY.

THUR, OCT 1 1896

Port of

Glasgow

Received at London Office

No. in Survey held at
Reg. Book.

Glasgow

Date, first Survey 19th JuneLast Survey 24th Sept 1896.

(Number of Visits 22)

on the

S.S. "Centaur"

Tons

Gross 132

Net 45

Master J. R. Wardle

Built at

Glasgow

By whom built

Mackie & Thomson

When built 1896

Engines made at

Glasgow

By whom made

Muir & Houston Lim^d

when made 1896

Boilers made at

Glasgow

By whom made

Muir & Houston Lim^d

when made 1896

Registered Horse Power

45

Owners

W. J. Roberts

Port belonging to

Grimsby

Nom. Horse Power as per Section 28

35

Is Electric Light fitted

No

ENGINES, &c.—Description of Engines Triple Expansion, Direct No. of Cylinders Three No. of Cranks Three
 Diameter of Cylinders 10-16-27 Length of Stroke 20 Revolutions per minute 107 Diameter of Screw shaft as per rule 5 1/2
 Diameter of ^{Inter} shaft as per rule 4 1/2 Diameter of Crank shaft journals 5 1/2 Diameter of Crank pin 5 1/2 Size of Crank webs 10 x 3 1/2
 Diameter of screw 8-0 Pitch of screw 9-9-9 No. of blades Four State whether moveable Solid Total surface 21 sq ft.
 No. of Feed pumps One Diameter of ditto 2 1/2 Stroke 10 Can one be overhauled while the other is at work ✓
 No. of Bilge pumps One Diameter of ditto 2 1/2 Stroke 10 Can one be overhauled while the other is at work ✓
 No. of Donkey Engines One Sizes of Pumps 5 x 2 1/2 x 5-1/2 No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room Three—2 and one 2-1/2 Steam Ejector In Holds, &c. One—2

No. of bilge injections One sizes 2 1/2 Connected to condenser, or to circulating pump Pumps a separate donkey suction fitted in Engine room & 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 Fore Hold suction How are they protected Wood Casings
 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
 When were stern tube, propeller, screw shaft, and all connections examined in dry dock Before launching Is the screw shaft tunnel watertight No Tunnel
 Is it fitted with a watertight door ✓ worked from ✓

BOILERS, &c.—(Letter for record S) Total Heating Surface of Boilers 536 sq ft Is forced draft fitted No
 No. and Description of Boilers One—Cylindrical—Single Ended Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs
 Date of test 31-8-96 Can each boiler be worked separately ✓ Area of fire grate in each boiler 23 sq ft No. and Description of safety valves to
 each boiler Two—Direct, Spring Area of each valve 2 1/4 sq Pressure to which they are adjusted 180 lbs Are they fitted
 with easing gear Yes Smallest distance between boilers or uptakes and bunkers or woodwork 10 Mean diameter of boilers 9'-6"
 Length 8'-0" Material of shell plates Steel Thickness 3/8 Description of riveting: circum. seams Lap 2 1/2 Riv^d long. seams Butt 1 1/2 Riv^d
 Diameter of rivet holes in long. seams 1 1/8 Pitch of rivets 1 1/2 Lap of plates or width of butt straps 17
 Per centages of strength of longitudinal joint rivets 86 plate 85-0 Working pressure of shell by rules 186 lbs Size of manhole in shell 16" x 12"
 Size of compensating ring M^c Nails No. and Description of Furnaces in each boiler Two—Plain Material Steel Outside diameter 36"
 Length of plain part top 4'-3" bottom 6'-6" Thickness of plates crown 3/4 bottom 3/4 Description of longitudinal joint Double Butt No. of strengthening rings ✓
 Working pressure of furnace by the rules 183 lbs Combustion chamber plates: Material Steel Thickness: Sides 9/16 Back 9/16 Top 9/16 Bottom 13/16
 Pitch of stays to ditto: Sides 1 1/4 x 1 1/4 Back 1 1/4 x 1 1/4 Top 1 1/4 x 6 1/4 If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 182 lbs
 Material of stays Steel Diameter at smallest part 1 3/8 x 1 1/2 Area supported by each stay 60 sq Working pressure by rules 192 lbs End plates in steam space:
 Material Steel Thickness 7/8 Pitch of stays 13 1/2 x 1 1/2 How are stays secured Nuts & Washers Working pressure by rules 200 lbs Material of stays Steel
 Diameter at smallest part 2 5/16 Area supported by each stay 182 1/2 sq Working pressure by rules 196 lbs Material of Front plates at bottom Steel
 Thickness 3/8 Material of Lower back plate Steel Thickness 3/8 Greatest pitch of stays 1 1/2 Working pressure of plate by rules 210 lbs
 Diameter of tubes 3 1/4 Pitch of tubes 4 5/8 x 4 1/2 Material of tube plates Steel Thickness: Front 3/4 Back 3/4 Mean pitch of stays 9 1/8
 Pitch across wide water spaces 13 1/2 Working pressures by rules 249 lbs with Boiler Girders to Chamber tops: Material Iron Depth and
 thickness of girder at centre 6 3/4 x (3/4 x 2) length as per rule 26 Distance apart 6 3/4 Number and pitch of Stays in each Two—1 1/4
 Working pressure by rules 187 lbs Superheater or Steam chest; how connected to boiler ✓ Can the superheater be shut off and the boiler worked
 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

000 11

14690 gls

DONKEY BOILER— 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 _____
Diameter of donkey boiler _____ Length _____ Material of shell plates _____ Thickness _____
Description of riveting long. seams _____ Diameter 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 _____
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:— *Two top end and two bottom end connecting bolts & nuts: two main bearing bolts: set coupling bolts: set feed & bidge pump valves. Iron bolts nuts set. Air & circulating pump valves.*

The foregoing is a correct description,

Wm. A. Houston & Co. Manufacturer.

Dates of Survey while building { During progress of work in shops - - - 1896. June 19, 21, 25, 28, 31 (July) August 5, 7, 12, 24, 31. Sept 1, 2, 4, 10, 11, 12, 14, 15, 18, 23, 2.
During erection on board vessel - - -
Total No. of visits

General Remarks (State quality of workmanship, opinions as to class, &c. *The machinery of this vessel has been constructed under Special Survey, and is of good workmanship and material; it has been securely fitted on board, and worked satisfactorily under steam. In my opinion, it is eligible to have record + L.M.C. 9-96 in the Register Book.*

Two Fitting Reports are appended. For the appended photo print. See Report on sister vessel 'Chameleon'

It is submitted that this vessel is eligible for THE RECORD + L.M.C. 9-96

J.S.
1. 10. 96.

Certificate (if required) to be sent to _____
(The Surveyors are requested not to write on or below the space for Committee's Minute.)

The amount of Entry Fee. . . £ 1 : " :
Special £ 8 : " :
Donkey Boiler Fee £ " : " :
Travelling Expenses (if any) £ " : " :
When applied for, 20/9/96
When received, 25/9/96

R. J. P. Lewis
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute FRI. 2 OCT 1896
Assigned + L.M.C. 9-96