

REPORT ON MACHINERY.

SAT. 7 OCT 1899

Port of Mull Received at London Office _____

No. in Survey held at Mull Date, first Survey Nov. 14/98 Last Survey Sep. 1st 1899

Reg. Book. 5 on the Steam Vessel Muttallia (Number of Visits _____)

Tons { Gross 229
Net 115

Master _____ Built at Swimsby By whom built Richard Hargreaves & Son When built 1899

Engines made at Mull By whom made Chas & Holmes when made 1899

Boilers made at Mull By whom made Chas & Holmes when made 1899

Registered Horse Power _____ Owners North Eastern & Fife F Co Port belonging to Swimsby

Nom. Horse Power as per Section 28 64 Is Electric Light fitted No

ENGINES, &c. — Description of Engines Simple Compound No. of Cylinders Three No. of Cranks Three

Diameter of Cylinders 13" 21" 34" Length of Stroke 24" Revolutions per minute 110 Diameter of Screw shaft 6.8"
as per rule 6.15" as fitted 6.75"

Diameter of Tunnel shaft _____ Diameter of Crank shaft journals 6.5" Diameter of Crank pin 6.5" Size of Crank webs 9" x 4 3/4"
as fitted 6 1/2"

Diameter of screw 4" 6" Pitch of screw 11:0 No. of blades 4 State whether moveable No Total surface 26 sq ft

No. of Feed pumps one Diameter of ditto 17/8" Stroke 24" Can one be overhauled while the other is at work -

No. of Bilge pumps one Diameter of ditto 2 1/4" Stroke 24" Can one be overhauled while the other is at work -

No. of Donkey Engines one Sizes of Pumps 2 1/2" x 5" No. and size of Suctions connected to both Bilge and Donkey pumps _____

In Engine Room one 2 In Holds, &c. two 2

Exhaust suction in Engine Bilge and hold and discharge on deck

No. of bilge injections one size 3" Connected to condenser, or to circulating pump forms a separate donkey suction fitted in Engine room & size equal to

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 suction to forward How are they protected wood cased

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 from 2nd to 10th Is the screw shaft tunnel watertight to tunnel

Is it fitted with a watertight door - worked from -

BOILERS, &c. — (Letter for record S) Total Heating Surface of Boilers 10879 sq ft Is forced draft fitted No

No. and Description of Boilers one Cylindrical Working Pressure 180 lb Tested by hydraulic pressure to 360 lb

Date of test 2/8/99 Can each boiler be worked separately - Area of fire grate in each boiler 29.5 sq ft No. and Description of safety valves to each boiler two Spring loaded Area of each valve 3.95 sq in 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 8" Mean diameter of boilers 11:0"

Length 9:6" Material of shell plates Steel Thickness 1" Description of riveting: circum. seams all in lap long. seams all chop side

Diameter of rivet holes in long. seams 1/32" Pitch of rivets 7" Lap of plates or width of butt straps 15"

Per centages of strength of longitudinal joint 85.74% Working pressure of shell by rules 187 lb Size of manhole in shell 16" x 12"
rivets 85.26% plate

Size of compensating ring 6" x 1" No. and Description of Furnaces in each boiler one bottom Material Steel Outside diameter 41"

Length of plain part 15" Thickness of plates 10/16" Description of longitudinal joint welded No. of strengthening rings 4

Working pressure of furnace by the rules 184 lb Combustion chamber plates: Material Steel Thickness: Sides 2 1/32" Back 9/16" Top 2 1/32" Bottom 2 1/32"

Pitch of stays to ditto: Sides 8 3/4" Back 7 3/4" Top 8 3/4" If stays are fitted with nuts or riveted heads Yes Working pressure by rules 207 lb End plates in steam space: Material Steel Diameter at smallest part 1 1/2" Area supported by each stay 8 3/4" x 7 3/4" Working pressure by rules 192 lb

Material Steel Thickness 1 1/32" Pitch of stays 15 3/4" How are stays secured all nut Working pressure by rules 180 lb Material of stays Steel

Diameter at smallest part 2 23/32" Area supported by each stay 15 3/4" Working pressure by rules 234 lb Material of Front plates at bottom Steel

Thickness 2 7/32" Material of Lower back plate Steel Thickness 13/16" Greatest pitch of stays 12" Working pressure of plate by rules 180 lb

Diameter of tubes 3 1/4" Pitch of tubes 4 3/4" Material of tube plates Steel Thickness: Front 2 7/32" Back 13/16" Mean pitch of stays 9 1/2"

Pitch across wide water spaces 15" Working pressures by rules 180 lb Girders to Chamber tops: Material Iron Depth and thickness of girder at centre 7 3/4" x 1 3/4" Length as per rule 28 1/16" Distance apart 8" Number and pitch of Stays in each two 8 3/4"

Working pressure by rules 205 lb Superheater or Steam chest; how connected to boiler _____ Can the superheater be shut off and the boiler worked separately _____

holes _____ Diameter _____ Length _____ Thickness of shell plates _____ Material _____ Description of longitudinal joint _____ Diam. of rivet _____ 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 _____

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DONKEY BOILER— Description *No Donkey Boiler*

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 ca
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 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:— *Two top end bolts. Two bottom end bolts. Two
Main bearing bolts. One set coupling bolts. One set feed pump valves
One set Bilge pump valves. Set check valves. Safety valves spring &c
The vessel efficient with masts and sails as a sailing vessel*

The foregoing is a correct description,
Charles D. Holmes Manufacturer.

Dates of Survey while building
During progress of work in shops: 1898:— Nov 14, 28, Dec 5
During erection on board vessel: Jun 2, 8, 16, 23, 27, July 12, 24, 29, Aug 10, 14, 15, 23, 24, Sept 1
Total No. of visits: 34

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

ENGINES—Length of stern bush *31"* Diameter of crank shaft journals *6 1/2"* as per rule *6 1/2"* as fitted *6 5/8"* Diameter of thrust shaft under collars *6 5/8"*

BOILERS—Range of tensile strength *29632* Are they welded or flanged *✓* DONKEY BOILERS—No. *—* Range of tensile strength *—*

Is the approved plan of main boiler forwarded *✓* with *Rpt No 12685* Is the approved plan of donkey boiler forwarded herewith *—*

*This case is similar in all respects to The "Oratia". Hull
Report No 12685. dated 30th June 1899.*

*The Machinery and Boiler of this Steam Sailing
Vessel have been constructed under Special Order and placed
on board in accordance with the Society's Rules. They are now
in my opinion in safe working condition and the case is
respectfully submitted for the notification of L.N.C. S. 99 in
the Register Book.*

It is submitted that
this vessel is eligible for
THE RECORD. + L.M.C. 9,99

7/10/99

The amount of Entry Fee... £ 1 : : When applied for.
Special ... £ 9 : 12 : : 1/9/1899
Donkey Boiler Fee ... £ : : :
Travelling Expenses (if any) £ : : : 29/9/1899

Lawrence Jones
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute

Assigned

TUES. 10 OCT 1899

MACHINERY CERTIFICATE
WRITTEN

+ L.M.C. 9,99

GMS 357/49

These parts
Signal Letters

Official No

1109

No. Date, and

Whether British
Foreign Built

British

Number of D

Number of M

Rigged ...

Stern ...

Build ...

Galleries

Head ...

Framework
vessel ...

Number of

Number of
and their

Total to qu
at side a

No. of
Engines

One
In

Let
No
In
Pr

Under T

Closed-in

Space

Deck

Fore

Room

Other

Deduct

No. of

Name

Th

Ma

Date

RS

Certificate (if required) to be sent to
The Surveyors of Lloyd's Register of Shipping (Lloyd's)