

REPORT ON MACHINERY.

7416

No. 7416 Port of Shull Received at London Office FRI 29 AUG 1890
 No. in Survey held at Shull Date, first Survey Dec 30/90 Last Survey 26 Aug 1890
 Reg. Book. Shull (Number of Visits 35)
 on the Sun Steam Trawler Mandalay Tons { Gross 147.79
 Net 48.28
 Master Dier Built at Shull By whom built Book Nelson & Gemmell When built 1890
 Engines made at Shull By whom made Charles D Holmes & Co when made 1890
 Boilers made at Shull By whom made Charles D Holmes & Co when made 1890
 Registered Horse Power 50 Owners George Beeching Port belonging to Shull

ENGINES, &c.—

(Triple expansion)
 Description of Engines Triple Compound Inverted Direct Acting No. of Cylinders Three
 Diam. of Cylinders 12 1/2 19 1/2 & 31 1/2 Length of Stroke 22 1/2 Rev. per minute 120 Point of Cut off, High Pressure .56 Low Pressure .65
 Diameter of Screw shaft 6 7/16 Diam. of Tunnel shaft 6 Diam. of Crank shaft journals 6 1/4 Diam. of Crank pin 6 1/4 size of Crank webs 7 1/4 x 4 3/4
 Diameter of screw 4.9 Pitch of screw 11.10 1/2 & 10.3 No. of blades 4 state whether moveable No total surface 23.75 sq ft
 No. of Feed pumps One diameter of ditto 1 7/8 Stroke 22 1/2 Can one be overhauled while the other is at work -
 No. of Bilge pumps One diameter of ditto 2 1/8 Stroke 22 1/2 Can one be overhauled while the other is at work -
 Where do they pump from Engine room bilge & hold
 No. of Donkey Engines One Size of Pumps 2 3/4 x 4 duplex Where do they pump from Engine room Bilge & hold
Sea & hold. Discharges to Boiler Condenser Sock & Overboard. Also 3 Geckon
with suction in the Engine room Bilge and discharge on deck.
 Are all the bilge suction pipes fitted with roses Yes Are the roses always accessible Yes Are the sluices on Engine room bulkheads always accessible -
 No. of bilge injections One and sizes 2 3/4 Are they connected to condenser, or to circulating pump Circulating Pump
 How are the pumps worked Direct from Piston rod crosshead
 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 accessible at all times Yes in Engine room
 Are the pipes, cocks, and valves arranged so as to prevent an unintentional connection between the sea and the bilges Yes
 When were stern tube, propeller, screw shaft, and all connections examined in dry dock Nov Nov Launched 19 July 1890
 Is the screw shaft tunnel watertight ✓ and fitted with a sluice door ✓ worked from ✓

OILERS, &c.—

No. of Boilers One Description Cylindrical Material Steel Letter (for record) S
 Working Pressure 150 lb Tested by hydraulic pressure to 300 lb Date of test 18th July 1890
 Description of superheating apparatus or steam chest None fitted
 Can each boiler be worked separately ✓ Can the superheater be shut off and the boiler worked separately -
 No. of square feet of fire grate surface in each boiler 2729 sq ft Description of safety valves Spring loaded No. to each boiler two
 Area of each valve 5.95 sq ft Are they fitted with easing gear Yes No. of safety valves to superheater - area of each valve -
 Are they fitted with easing gear ✓ Smallest distance between boilers and bunkers or woodwork 8' Diameter of boilers 10.6'
 Length of boilers 9.4 1/2' description of riveting of shell long. seams all chop all circum. seams all on lap Thickness of shell plates 1 1/16
 Diameter of rivet holes 1 7/32 whether punched or drilled drilled pitch of rivets 6 7/8 Lap of plating 11 1/4
 Per centage of strength of longitudinal joint 82.2 % working pressure of shell by rules 150 lb size of manholes in shell 16" x 12"
 Size of compensating rings 6" x 1 1/16 No. of Furnaces in each boiler two Description of Furnaces Holmes Patent
 Outside diameter 34" length 6.5" thickness of plates 1 1/16 description of joint welded if rings are fitted Yes
 Greatest length between rings 20' working pressure of furnace by the rules 150 lb combustion chamber plating, thickness, sides 1 7/32 back 1 7/32 top 1 7/32
 Pitch of stays to ditto, sides 7 1/2 back 7 1/2 top 7 1/16 If stays are fitted with nuts or riveted heads Nuts working pressure of plating by rules 155 lb Diameter of stays at smallest part 1 1/4 working pressure of ditto by rules 176 lb end plates in steam space, thickness 1 1/16
 Pitch of stays to ditto 15 3/8 how stays are secured all nuts loaded working pressure by rules 152 lb diameter of stays at smallest part 2 5/16 working pressure by rules 160 lb Front plates at bottom, thickness 1 1/16 Back plates, thickness 1 1/16
 Greatest pitch of stays 1 1/4 working pressure by rules 160 lb Diameter of tubes 3 1/2 pitch of tubes 14 1/16 thickness of tube plates, front 1 1/16 back 1 1/16 how stayed stay tubes pitch of stays 9 5/8 width of water spaces 10"
 Diameter of Superheater or Steam chest - length - thickness of plates - description of longitudinal joint - diam. of rivet holes -
 Pitch of rivets - working pressure of shell by rules - diameter of flue - thickness of plates - If stiffened with rings -
 Distance between rings - working pressure by rules - end plates of superheater, or steam chest; thickness - how stayed -
 Superheater or steam chest; how connected to boiler -

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 _____ if fitted with easing gear _____ if steam from main boilers can
enter the donkey boiler _____ diameter of donkey boiler _____ length _____ description of riveting _____
Thickness of shell plates _____ diameter of rivet holes _____ whether punched or drilled _____ pitch of rivets _____ lap of plating _____
per centage of strength of joint _____ thickness of crown plates _____ stayed by _____
Diameter of furnace, top _____ bottom _____ length of furnace _____ thickness of 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 plates _____ thickness of water tubes _____

SPARE GEAR. State the articles supplied:— *Two top end bolts, Two bottom end bolts. Two
main bearing bolts. One cut coupling bolts. One cut feed and Bilge
Pump valves Safety Valve spring.*

The vessel efficient with masts and sails as a hauler

The foregoing is a correct description,

Charles Holmes & Co Manufacturer.

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

*The Machinery and Boiler of this Steam Hauler
have been constructed under Special Survey 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
+ L M C 8.90. in the Register Book.*

*It is submitted that this vessel is
eligible to have + L.M.C. 8-90 recorded
N.A.*

29.8.90

M.C. Winter
The amount of Entry Fee .. £ 1 : 0 : received by me,

Special £ 8 : 0 :

Donkey Boiler Fee £ - : :

Certificate (if required) .. £ - : : 1/9/90 18/90

To be sent as per margin.

(Travelling Expenses, if any, £ - : :)

Committee's Minute

TUES 2, SEPT 1890

+ Lmb 8/90

Charles Holmes
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.



Lloyd's Register
Foundation