

REPORT ON MACHINERY.

Port of *Newcastle*

FRIDAY 1 FEB 1895

No. in Survey held at *Newcastle* Date, first Survey *2 Mar. 1894* Last Survey *16 Jan. 1895*
 Reg. Book. *Suppl.* (Number of Visits *55*)
15 on the *S.S. "Dowgate"*
 Master *Hillis* Built at *Kallsund* By whom built *Swan & Hunter* When built *1895*
 Engines made at *Kallsund* By whom made *North Eastern Marine Eng^{rs}* when made *1895*
 Boilers made at *Kallsund* By whom made *North Eastern Marine Eng^{rs}* when made *1895*
 Registered Horse Power *300* Owners *A. W. Dillon* Port belonging to *London*
 Nom. Horse Power as per Section 28 *252*

ENGINES, &c.— Description of Engines *Triple Expansion* No. of Cylinders *3*
 Diameter of Cylinders *23-38-61"* Length of Stroke *39"* Revolutions per minute *60* Diameter of Screw shaft *as per rule 10 3/4"*
 Diameter of Tunnel shaft *as fitted 10 3/4"* Diameter of Crank shaft journals *11 1/4"* Diameter of Crank pin *11 1/4"* Size of Crank webs *7 1/2" x 2 1/2"*
 Diameter of screw *16'0"* Pitch of screw *16'0"* No. of blades *4* State whether moveable *no* Total surface *75 sq ft*
 No. of Feed pumps *2* Diameter of ditto *3 1/4"* Stroke *21"* Can one be overhauled while the other is at work *yes*
 No. of Bilge pumps *2* Diameter of ditto *3 1/2"* Stroke *21"* Can one be overhauled while the other is at work *yes*
 No. of Donkey Engines *2* Sizes of Pumps *8x9 Balat, 4x6 Fed* No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room *Two bilge 2 1/2" One Centre 3 1/2"* In Holds, &c. *Two Forehold 3" Two main hold 3" One aft well 3 1/2" One Tunnel well 2 1/2"*
 No. of bilge injections *1* sizes *4"* Connected to condenser, or to circulating pump *separate donkey suction fitted in Engine room of size 3 1/2"*
 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 *none* How are they protected *-*
 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 *New Year* Is the screw shaft tunnel watertight *yes*
 Is it fitted with a watertight door *yes* worked from *top platform*

BOILERS, &c.— (Letter for record *S.*) Total Heating Surface of Boilers *4080 sq ft*
 No. and Description of Boilers *Two mult. single ended* Working Pressure *160 lb* Tested by hydraulic pressure to *320 lb*
 Date of test *1.11.94* Can each boiler be worked separately *yes* Area of fire grate in each boiler *48.75 sq ft* No. and Description of safety valves to each boiler *2, spring*
 Area of each valve *7.07* Pressure to which they are adjusted *165 lb* Are they fitted with easing gear *yes*
 Smallest distance between boilers or uptakes and bunkers or woodwork *16"* Mean diameter of boilers *14'9"*
 Length *10'0"* Material of shell plates *Steel* Thickness *1 1/2"* Description of riveting: circum. seams *Lap double* long. seams *D. B. tubular*
 Diameter of rivet holes in long. seams *1 5/16"* Pitch of rivets *9 1/4"* Lap of plates or width of butt straps *19 1/2"*
 Per centages of strength of longitudinal joint *84.9* Working pressure of shell by rules *171 lb* Size of manhole in shell *16 x 12*
 Size of compensating ring *flanged* No. and Description of Furnaces in each boiler *3 plain* Material *Steel* Outside diameter *40 1/2"*
 Length of plain part *top 5'4" bottom 5'4"* Thickness of plates *top 3/4" bottom 3/4"* Description of longitudinal joint *D. B. shop* No. of strengthening rings *1*
 Working pressure of furnace by the rules *163 lb* Combustion chamber plates: Material *Steel* Thickness: Sides *1 1/2"* Back *5/8"* Top *1 1/2"* Bottom *3/2"*
 Pitch of stays to ditto: Sides *8 3/4"* Back *9 1/8"* Top *8 3/4"* If stays are fitted with nuts or riveted heads *nuts* Working pressure by rules *162 lb*
 Material of stays *Steel* Diameter at smallest part *3 1/4" x 5/8"* Area supported by each stay *7439 sq in* Working pressure by rules *161 lb* End plates in steam space:
 Material *Steel* Thickness *1 1/2"* Pitch of stays *22 1/2" x 2 1/4"* How are stays secured *on plates* Working pressure by rules *162 lb* Material of stays *Steel*
 Diameter at smallest part *3 1/2"* Area supported by each stay *5119 sq in* Working pressure by rules *172 lb* Material of Front plates at bottom *Steel*
 Thickness *3/4"* Material of Lower back plate *Steel* Thickness *3/4"* Greatest pitch of stays *14 1/2"* Working pressure of plate by rules *185 lb*
 Diameter of tubes *3 1/4"* Pitch of tubes *4 1/2"* Material of tube plates *Steel* Thickness: Front *3/4"* Back *3/4"* Mean pitch of stays *11 1/4"*
 Pitch across wide water spaces *14 1/2"* Working pressures by rules *190 lb* Girders to Chamber tops: Material *Steel* Depth and thickness of girder at centre *8 1/2" x 1 1/2"* Length as per rule *31"* Distance apart *7 1/2"* Number and pitch of Stays in each *2-8 3/4"*
 Working pressure by rules *207 lb* Superheater or Steam chest; how connected to boiler *None* Can the superheater be shut off and the boiler worked separately *yes*
 Diameter *yes* Length *yes* Thickness of shell plates *yes* Material *yes* Description of longitudinal joint *yes* Diam. of rivet holes *yes*
 Pitch of rivets *yes* Working pressure of shell by rules *yes* Diameter of flue *yes* Material of flue plates *yes* Thickness *yes*
 If stiffened with rings *yes* Distance between rings *yes* Working pressure by rules *yes* End plates: Thickness *yes* How stayed *yes*
 Working pressure of end plates *yes* Area of safety valves to superheater *yes* Are they fitted with easing gear *yes*

DONKEY BOILER— Description *Vertical with 4 x tubes.*

Made at *Stockton* By whom made *Riley Bros*

Working pressure *80 lbs* tested by hydraulic pressure to *160* No. of Certificate *883* Fire grate area *25* $\frac{1}{2}$ Where fixed *Stokehole*

No. of safety valves *2* Area of each *4.91* Pressure to which they are adjusted *85 lbs* If fitted with easing gear *Yes* If steam from main boilers

enter the donkey boiler *No* Diameter of donkey boiler *7' 0"* Length *15' 0"* Material of shell plates *Steel* Thickness

Description of riveting long seams *Lap double* Diameter of rivet holes *$\frac{3}{8}$ "* Whether punched or drilled *punched* Pitch of riv

Lap of plating *$4\frac{1}{4}$ "* Per centage of strength of joint Rivets *74.7* Thickness of shell crown plates *$\frac{9}{16}$ "* Radius of do. *5' 0"* No. of Stays to do.

Dia. of stays *$1\frac{1}{2}$ "* Diameter of furnace Top *5' 5"* Bottom *6' 0 $\frac{1}{4}$ "* Length of furnace *5' 8"* Thickness of furnace plates *$\frac{5}{8}$ "* Description

joint *Lap single* Thickness of furnace crown plates *$\frac{9}{16}$ "* Stayed by *same as shell crown* Working pressure of shell by rules *80*

Working pressure of furnace by rules *81 lbs* Diameter of uptake *17"* Thickness of uptake plates *$\frac{7}{16}$ "* Thickness of water tubes *$\frac{3}{8}$ "*

SPARE GEAR. State the articles supplied:— *2 Top end bolts & nuts, 2 bottom end bolts & nuts, 2 main bearing bolts & nuts, 1 set coupling bolts, 1 set for bilge pump valves, 1 propeller, Bolt & nut assorted.*

The foregoing is a correct description,
FOR AND ON BEHALF OF THE NORTH EASTERN
MARINE ENGINEERING COMPANY, LIMITED. Manufacturer.

H. M. M. M.

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

The main steam pipes have been tested by hydraulic pressure to 320 lbs & found in order.

The engines & boilers of this vessel have been built under special survey, and of good quality of workmanship. They have been tried under steam, safety-valves adjusted, & found to work well. The machinery is now eligible in our opinion to have the notation + L.M.C. 1.95 in the Register Book.

It is submitted that
this vessel is eligible for
THE RECORD. + L.M.C. 1.95

A.R.R.
2.2.95

Certificate (if required) to be sent to

Newcastle Office

The amount of Entry Fee. £ *2 : 0 :* When applied for,

Special £ *32 : 12 :* *29.1.95*

Donkey Boiler Fee £ *:* When received,

Travelling Expenses (if any) £ *:* *31.1.95*

Committee's Minute

TUES. 5 FEB 1895

Assigned

+ L.M.C. 1.95

R. F. Norton & A. Stoddart
Engineer Surveyors to Lloyd's Register of British & Foreign Shipping.



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Lloyd's Register
Foundation

VE

These parts

Signal Letters (a

Official Number

104, 834

No., Date, and Po

Whether British or
Foreign Built.

British

Number of Decks

Number of Masts

Rigged

Stern

Build

Galleries

Head

Framework and d

vessel

Number of Bulkhe

Number of water l

and their capaci

Total to quarter th

at side amidship

No. of Engines

Descri

Engi

Triple

Surface

Three

Boil

Number

Iron or Steel ..

Pressure when ..

GRO

Under Tonnage De

Closed-in spaces abo

Space or spaces

Prop

Forecastle

de Round House

Other closed-in s

Short

Excesso

Machinery,

Gross To

Deductions, as per

Register

Name of Ma

No. of Owners

Name, Residence, a

Dawga

41 B.

Henry We

Dated *18th*

W B & L (439w) - 41262 - 100