

## REPORT ON MACHINERY.

Port of *West Hartlepool*

MON. 21 JAN 1895

Received at London Office

No. in Survey held at *West Hartlepool*  
Reg. Book.Date, first Survey *10<sup>th</sup> April 94* Last Survey *18<sup>th</sup> Jan 1895**22 Sup.* on the *Steel SS "LESREAUUX"*(Number of Vents *65*)Tons { Gross *3008*  
Net *1939*When built *1894.5*Master *A Oatway 92.95* Built at *West Hartlepool* By whom built *H Gray & Co (Lim)*Engines made at *West Hartlepool* By whom made *Central Marine Engine Works* when made *1894.5*Boilers made at *Ditto* By whom made *(H Gray & Co)* when made *1894.5*Registered Horse Power ~~*258*~~ *300* Owners *"Lesreaulx" S.S. Co Lim.* Port belonging to *Cardiff*Nom. Horse Power as per Section 28. *258**Morrell, Bros., Managers*

ENGINES, &c.— Description of Engines *Triple expansion: three cranks.* No. of Cylinders *three.*

Diameter of Cylinders *24" 38" 64"* Length of Stroke *42"* Revolutions per minute *65* Diameter of Screw shaft *as per rule 11.24"*  
*as fitted 11.2"*

Diameter of Tunnel shaft *as fitted 11"* Diameter of Crank shaft journals *11.2"* Diameter of Crank pin *11.2"* Size of Crank webs *7.8" x 16.4"*

Diameter of screw *15.6"* Pitch of screw *✓* No. of blades *4* State whether moveable *no* Total surface *80 sq. ft.*

No. of Feed pumps *2* Diameter of ditto *3.4"* Stroke *26"* Can one be overhauled while the other is at work *yes.*

No. of Bilge pumps *2* Diameter of ditto *4"* Stroke *26"* Can one be overhauled while the other is at work *yes.*

No. of Donkey Engines ~~*two*~~ *3* Sizes of Pumps *4" x 6" feed 10" x 9" (two)* No. and size of Suctions connected to both Bilge and Donkey pumps  
*In Engine Room Three: 3.2" dia.* *In Holds, &c. Seven: two 3" dia to Fore hold: two 3" dia*

*to Fore Main Hold: two 3" dia. after hold: & one 2.2" dia. in tunnel with connection to After Peak.*

No. of bilge injections *1* sizes *5"* Connected to ~~*condenser*~~ *or to* circulating pump *yes.* Is a separate donkey suction fitted in Engine room & size *yes. 3"*

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 *none*

Are all connections with the sea direct on the skin of the ship *yes, except main tank injections, distance pieces.* 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 *before launch* Is the screw shaft tunnel watertight *yes.*

Is it fitted with a watertight door *yes.* worked from *top platform of Engine Room.*

BOILERS, &c.— (Letter for record *S.*) Total Heating Surface of Boilers *3750 sq. ft.*

No. and Description of Boilers *2. Mul. Cyl. single ended.* Working Pressure *160 LBS* Tested by hydraulic pressure to *320 LBS*

Date of test *26.10.94* Can each boiler be worked separately *yes* Area of fire grate in each boiler *42.2 sq. ft.* No. and Description of safety valves to  
each boiler *2 spring direct.* Area of each valve *8.29 sq. in.* Pressure to which they are adjusted *165 LBS.* Are they fitted  
with easing gear *yes* Smallest distance between boilers or uptakes and bunkers or woodwork *24"* Mean diameter of boilers *14.9"*

Length *10' 0"* Material of shell plates *steel* Thickness *1.3/16"* Description of riveting: circum. seams *Treble.* long. seams *Treble.*

Diameter of rivet holes in long. seams *1.3/16"* Pitch of rivets *8"* Lap of plates on width of butt straps *17.3/4"*

Per centages of strength of longitudinal joint *86.6* Working pressure of shell by rules *164 LBS.* Size of manhole *16" x 12"*

Size of compensating ring *24" x 24" x 1.5/16"* No. and Description of Furnaces in each boiler *3. Purves' Material steel* Outside diameter *43.2"*

Length of ~~*main part*~~ *furnaces* *top 6' 0" bottom 6' 6"* Thickness of plates *crown 1/2" bottom 5/8"* Description of longitudinal joint *weld* No. of strengthening rings *✓*

Working pressure of furnace by the rules *160 LBS* Combustion chamber plates: Material *skel* Thickness: Sides *19/32"* Back *19/32"* Top *19/32"* Bottom *7/8"*

Pitch of stays to ditto: Sides *8.5/8" x 8.5/8"* Back *8" x 8.5/8"* Top *8.1/2"* If stays are fitted with nuts or riveted heads *nuts.* Working pressure by rules *164 LBS.*

Material of stays *steel* Diameter at smallest part *1.38"* Area supported by each stay *74 sq. in.* Working pressure by rules *161 LBS.* End plates in steam space:

Material *skel* Thickness *1"* Pitch of stays *16.1/16" x 16.1/16"* How are stays secured *double nuts washers* Working pressure by rules *162 LBS.* Material of stays *skel*

Diameter at smallest part *2.53"* Area supported by each stay *278 sq. in.* Working pressure by rules *164 LBS.* Material of Front plates at bottom *skel.*

Thickness *5/8"* Material of Lower back plate *steel* Thickness *1"* Greatest pitch of stays *14"* Working pressure of plate by rules *173 LBS.*

Diameter of tubes *3.4"* Pitch of tubes *4.2" x 4.2"* Material of tube plates *skel* Thickness: Front *15/16"* Back *5/8"* Mean pitch of stays *9" x 9"*

Pitch across wide water spaces *14.1/4"* Working pressures by rules *166 LBS.* Front Girders to Chamber tops: Material *skel.* Depth and  
thickness of girder at centre *8" x 1.1/4"* Length as per rule *24"* Distance apart *8.1/2"* Number and pitch of Stays in each *one 9"*

Working pressure by rules *172 LBS.* Superheater or Steam chest; how connected to boiler *none.* 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 *✓*



DONKEY BOILER—<sup>20</sup>Description *Two. Vertical, cyl. 4 cross tubes.*

Made at *Nest Hartlepool.* By whom made *H Gray & Co (Linn)*

When made *1894* Where fixed *Stoke hold.*

Working pressure *80* <sup>LBS</sup> tested by hydraulic pressure to *160* <sup>LBS</sup> No. of Certificate *2439* Fire grate area ☒ Description of safety valves *direct spring.*

No. of safety valves *one* Area of each *11.79* Pressure to which they are adjusted *85* <sup>LBS</sup> If fitted with easing gear *yes* If steam from main boilers can enter the donkey boiler *no* Diameter of donkey boiler *6' 0"* Length *16' 0"* Material of shell plates *steel* Thickness  *$\frac{13}{32}$ "*

Description of riveting long. seams *double riv. lap.* Diameter of rivet holes  *$\frac{13}{16}$ "* <sup>Whether punched or drilled & annealed</sup> Pitch of rivets  *$2\frac{3}{4}$ "*

Lap of plating  *$4\frac{1}{2}$ "* Per centage of strength of joint <sup>Rivets *79.0* Plates *70.4*</sup> Thickness of shell crown plates  *$\frac{1}{2}$ "* Radius of do. ☒ No. of Stays to do. *6*

Dia. of stays. *2"* Diameter of furnace Top  *$4' 7\frac{1}{4}"$*  Bottom  *$5' 3\frac{1}{4}"$*  Length of furnace *5' 9"* Thickness of furnace plates  *$\frac{19}{32}$ "* Description of

joint *single riv. lap* Thickness of furnace crown plates  *$\frac{19}{32}$ "* Stayed by *same as shell crown* Working pressure of shell by rules *81* <sup>LBS</sup>.

Working pressure of furnace by rules *88* <sup>LBS</sup>. Diameter of uptake *15"* Thickness of uptake plates  *$\frac{3}{8}$ "* Thickness of water tubes  *$\frac{3}{8}$ "*

SPARE GEAR. State the articles supplied:—*2 Cou. rod top & 2 bottom end bolts & nuts: 2 main bearing, & one set of coupling, bolts: 1 set of feed & bilge pump valves: 1 set of HP piston springs: bolts, nuts, & iron, assorted: 1 HP valve, & face: 13<sup>rd</sup> crank shaft: 1 tail end shaft: 1 propeller: and 1 eccentric strap: 1 valve spindle: 1 eccentric rod.*

The foregoing is a correct description,

FOR THE CENTRAL MARINE ENGINE WORKS,

Manufacturers of Main Engines & Boilers only.

General Remarks (State quality of workmanship, opinions as to class, &c. *The machinery of this vessel has been constructed under Special Survey; the materials, and workmanship are good; and, in my opinion, entitle the vessel to have the notation **L.M.C. 1.95**, entered in the Register Book of this Society.*

*Mudd's Evaporator fitted aboard.*

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

*APR  
21 1 95*

Certificate (~~if~~ required) to be sent to

The amount of Entry Fee..	£	2 : 0 :	When applied for,
Special .. .. .	£	32 : 18 :	<i>19.1.95</i>
Donkey Boiler Fee .. .. .	£	4 : 4 :	When received,
Travelling Expenses (if any) £	:	:	<i>19.1.95</i>

Committee's Minute

Assigned

TUES. 22 JAN 1895

*+ L.M.C. 1.95*

*W. Hunter.*  
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.



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Foundation