

REPORT ON MACHINERY.

Port of WEST HARTLEPOOLReceived at London Office FRI. 1 APL 1898

No. in Survey held at West Hartlepool Date, first Survey 1st March 1897 Last Survey 30th March 1898
 Reg. Book. 4 in supn the Steel S.S. "Assyrian" Tons { Gross 2889.87
 Master A Grant Built at West Hartlepool By whom built Furness Withy & Co. Ltd. When built 1898
 Engines made at Hartlepool By whom made J. Richardson & Son Ltd. when made 1898
 Boilers made at Hartlepool By whom made J. Richardson & Son Ltd. when made 1898
 Registered Horse Power 287.6 Owners J. Leyland & Co. Ltd. Port belonging to Liverpool
 Nom. Horse Power as per Section 28 287.6 Is Electric Light fitted No

ENGINES, &c.—Description of Engines Triple expansion No. of Cylinders three No. of Cranks 3
 Diameter of Cylinders 22" - 36" - 62" Length of Stroke 48" Revolutions per minute 65 Diameter of Screw shaft as per rule 12 3/4"
 Diameter of Tunnel shaft as per rule 11.5" Diameter of Crank shaft journals 12 3/4" Diameter of Crank pin 12 3/4" Size of Crank webs 8 3/4" x 19 1/4"
 Diameter of screw 16' - 9" Pitch of screw 18' - 0" to 20' - 0" No. of blades 4 State whether moveable yes Total surface 72 sq. ft.
 No. of Feed pumps 2 Diameter of ditto 3" Stroke 24" Can one be overhauled while the other is at work Yes
 No. of Bilge pumps 2 Diameter of ditto 3" Stroke 24" Can one be overhauled while the other is at work Yes
 No. of Donkey Engines Two Sizes of Pumps Pulsometers 6" and 4" Duplex No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room Three - Two 3" dia + One 3 1/2" dia In Holds, &c. Twelve - One 3" to fore peak, Two 3" to No. 1 hold, Two 3" dia. to No. 2 hold, Two 3" to No. 3 hold, Two 3" to No. 4 hold, Two 3" to No. 5 hold + One 2 1/2" dia to after peak,
 No. of bilge injections one sizes 4 1/2" Connected to condenser, or to circulating pump is a separate donkey suction fitted in Engine room & 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 slides 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 vessel Is the screw shaft tunnel watertight Yes
 Is it fitted with a watertight door Yes worked from top platform of Eng. Room

BOILERS, &c.—(Letter for record a) Total Heating Surface of Boilers 4208.5 sq. ft. Is forced draft fitted no
 No. and Description of Boilers 2 Single ended. by Mull. Working Pressure 200 lbs. Tested by hydraulic pressure to 400 lbs.
 Date of test 24.9.94 Can each boiler be worked separately Yes Area of fire grate in each boiler 47.25 sq. ft. No. and Description of safety valves to each boiler Two Spring direct. Area of each valve 5.93 sq. in. Pressure to which they are adjusted 205 lbs. Are they fitted with easing gear Yes Smallest distance between boilers or uptakes and bunkers or woodwork 12" Mean diameter of boilers 15' - 0"
 Length 10' - 6" Material of shell plates steel Thickness 1 1/2" Description of riveting: circum. seams treble long. seams treble
 Diameter of rivet holes in long. seams 1 1/32" Pitch of rivets 9 1/4" Lap of plates or width of butt straps 20 3/4"
 Per centages of strength of longitudinal joint plate 8.8 Working pressure of shell by rules 203 lbs. Size of manhole in shell 16 1/2" x 13"
 Size of compensating ring 30" x 30" x 1 1/32" No. and Description of Furnaces in each boiler 3 Morison Material steel Outside diameter 46"
 Length of furnace top 7' - 9" bottom 7' - 9" Thickness of plates crown 5" bottom 5" Description of longitudinal joint weld No. of strengthening rings ✓
 Working pressure of furnace by the rules 219 lbs. Combustion chamber plates: Material steel Thickness: Sides 2 1/2" Back 1 1/6" Top 2 1/32" Bottom 1 1/6"
 Pitch of stays to ditto: Sides 8" Back 9" Top 8" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 206 lbs.
 Material of stays iron Diameter at smallest part 1 5/8" Area supported by each stay 72 sq. in. Working pressure by rules 202 lbs. End plates in steam space: Material steel Thickness 1 1/6" Pitch of stays 14 1/2" x 16" How are stays secured double nut washers Working pressure by rules 208 lbs. Material of stays iron
 Diameter at smallest part 2 3/8" Area supported by each stay 232 sq. in. Working pressure by rules 210 lbs. Material of Front plates at bottom steel
 Thickness 4" Material of Lower back plate steel Thickness 1 1/32" Greatest pitch of stays 13 1/2" Working pressure of plate by rules 202 lbs.
 Diameter of tubes 3 1/4" Pitch of tubes 4 1/2" x 4 1/2" Material of tube plates steel Thickness: Front 3/8" + 1 1/32" Back 25/32" Mean pitch of stays 9"
 Pitch across wide water spaces 14 1/2" Working pressures by rules 201 lbs. Girders to Chamber tops: Material steel Depth and thickness of girder at centre 8 1/2" x 13 1/4" Length as per rule 2' - 9" Distance apart 8" Number and pitch of Stays in each 3. 8"
 Working pressure by rules 202 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— Description *Multitubular with dome.*
 Made at *Stockton* By whom made *Riley Bros.* When made *3-8-97* Where fixed *above main boiler*
 Working pressure *120lb* tested by hydraulic pressure to *240lb*. No. of Certificate *1547* Fire grate area *24* Description of safety valves *Spring direct*
 No. of safety valves *2* Area of each *4* Pressure to which they are adjusted *120lb*. If fitted with easing gear *Yes*. If steam from main boilers can enter the donkey boiler *no* Diameter of donkey boiler *9' 0"* Length *9' 0"* Material of shell plates *steel* Thickness *5/8"*
 Description of riveting long. seams *double butt.* Diameter of rivet holes *15/16"* Whether punched or drilled *drilled* Pitch of rivets *5 3/8"*
 Lap of plating *13"* Per centage of strength of joint *95* Rivets *C. Ch.* Thickness of shell crown plates *1 1/4"* Radius of do. *pitch* of Stays to do. *4 1/2"*
 Dia. of stays. *1 1/8"* Diameter of furnaces *Top 33" Bottom 32"* Length of furnace *5' 11 1/2"* Thickness of furnace plates *1 1/4"* Description of joint *welded* Thickness of furnace crown plates *2 5/8"* Stayed by *2 1/2" stays 15" x 13 1/2" pitch* Working pressure of shell by rules *121lb*
 Working pressure of furnace by rules *124lb*. Diameter of uptake *3 1/2"* Thickness of uptake plates *F 2 1/2" B 2 1/2"* Thickness of stay tubes *5/16"*
 Steam dome *3' 6" x 3' 6"* shell *3/8"* ends *2 1/2"*

SPARE GEAR. State the articles supplied:— *2 Con. rod top end + 2 Con. rod bottom end bolts + nuts; One set of coupling bolts; One set of feed + bilge pump valves; Assorted bolts + nuts; One set of springs for H.P. piston; One air + one circulating pump rod; one spindle to each valve; and two spare propeller blades.*

The foregoing is a correct description,

For *T. M. R. HARRISON & SONS LTD.* Manufacturer.

Dates { During progress of work in shops - - - - -
 of Survey { During erection on board vessel - - - - -
 while building { Total No. of visits *103* visits

General Remarks (State quality of workmanship, opinions as to class, &c.) *The main steam pipes have been tested by hydraulic pressure to 400 lbs. per sq. in. and found tight.*

The engines and boilers of this vessel have been constructed under Special Survey, material and workmanship good, when completed they were tried under steam, safety valves adjusted and found to work well, and are now in safe and efficient working condition, and eligible in my opinion to have L.M.C. 3.98. recorded in the Register Book

It is submitted that this vessel is eligible for THE RECORD.

+ L.M.C. 3.98

LL
 1/4/98

The amount of Entry Fee . . . £ *2 1/4*
 Special . . . £ *34*
 Donkey Boiler Fee . . . £ *8*
 Travelling Expenses (if any) £ . . .
 MACHINERY CERTIFICATE WRITTEN. When received, *14.4.98*

Committee's Minute

Assigned

TUES, 5 APR 1898

+ L.M.C. 3.98

W. H. Smith
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.



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