

REPORT ON MACHINERY.

Port of WEST HARTLEPOOL.

WED. JAN 8 1896

No. in Survey held at West Hartlepool Date, first Survey Aug 21/95 Last Survey Jan 2nd 1896
Book. on the Steel S.S. "Bertholey" (Number of Visits 4.5)
Master Joshua West 90-96 Built at West Hartlepool By whom built Messrs N. Gray & Co Ltd. Tons { Gross 2244.53
Net 1453.7
When built 1896
Machines made at West Hartlepool By whom made Central Marine Eng Works when made 1896
Boilers made at West Hartlepool By whom made Central Marine Eng Works when made 1896
Registered Horse Power 223.39 Owners Wm Gibbs Mores (of N. Gray & Co Ltd) Port belonging to Cardiff
Horse Power as per Section 28 223.39

FINES, &c.— Description of Engines Triple Expansion, 3 Cranks No. of Cylinders Three
Diameter of Cylinders 22" 35" 59" Length of Stroke 39" Revolutions per minute 65 Diameter of Screw shaft as per rule 10.3"
Diameter of Tunnel shaft as per rule 9.66" Diameter of Crank shaft journals 10 3/4" Diameter of Crank pin 10 3/4" Size of Crank webs 6 1/2" x 15 1/2"
Diameter of screw 14 1/2" Pitch of screw Differential No. of blades 4 State whether moveable no Total surface 63 sq. ft.
No. of Feed pumps 2 Diameter of ditto 3" Stroke 26" Can one be overhauled while the other is at work yes
No. of Bilge pumps 2 Diameter of ditto 3 1/2" Stroke 26" Can one be overhauled while the other is at work yes
No. of Donkey Engines Three Sizes of Pumps Lead. 4 1/2" x 5" 10" x 9" Two Ballast No. and size of Suctions connected to both Bilge and Donkey pumps
Engine Room Three — Two 3 1/2" dia & one 3 1/2" dia. In Holds, &c. Seven. — Two 3" dia in No. 1 Hold; 3" dia in No. 2 Hold; Two 3" dia in No. 3 Hold; & one 2 1/2" dia to after peak with con. to tunnel.
No. of bilge injections one sizes 5" Connected to condenser, or to circulating pump circ. pump Is a separate donkey suction fitted in Engine room & size 3 1/2" dia. — yes.
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 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
Are all pipes 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
Were stern tube, propeller, screw shaft, and all connections examined in dry dock Vessel not docked 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 31442 sq. ft.
No. and Description of Boilers 3. Single ended. byl. Mult. Working Pressure 160 lbs Tested by hydraulic pressure to 320 lbs
Date of test 15.11.95 Can each boiler be worked separately yes Area of fire grate in each boiler 35 sq. ft. No. and Description of safety valves to boiler Two. Spring direct. Area of each valve 4.04 sq. in Pressure to which they are adjusted 160 lbs. Are they fitted with easing gear yes Smallest distance between boilers or uptakes and bunkers or woodwork 16" Mean diameter of boilers 11' 3"
Length 10' 0" Material of shell plates steel Thickness 15/16" Description of riveting: circum. seams double long. seams treble.
Diameter of rivet holes in long. seams 15/16" Pitch of rivets 6 1/4" Lap of plates or width of butt straps 14 3/8"
Percentages of strength of longitudinal joint 87.5% Working pressure of shell by rules 163.7 lbs Size of manhole in shell 16" x 12"
Diameter of compensating ring 32" x 28" x 1" No. and Description of Furnaces in each boiler 2. Purves' Material steel Outside diameter 36"
Length of plain part 7' 2" Thickness of plates 1 1/2" Description of longitudinal joint weld No. of strengthening rings —
Working pressure of furnace by the rules 161.1 lbs Combustion chamber plates: Material steel Thickness: Sides 1 1/2" Back 1 1/2" Top 1 1/2" Bottom 1 1/2"
No. of stays to ditto: Sides 8 5/8" Back 8 5/8" Top 4" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 163.78 lbs
Material of stays steel Diameter at smallest part 1 3/8" Area supported by each stay 44.3 sq. in Working pressure by rules 160.5 lbs End plates in steam space: Material steel Thickness 1 1/2" Pitch of stays 14 1/2" x 16" How are stays secured double nuts Working pressure by rules 162.9 lbs Material of stays steel
Diameter at smallest part 2 3/4" Area supported by each stay 282 sq. in Working pressure by rules 161.2 lbs Material of Front plates at bottom steel Thickness 3/4" Material of Lower back plate steel Thickness 1" Greatest pitch of stays 13 5/8" Working pressure of plate by rules 186 lbs.
Diameter of tubes 3 1/4" Pitch of tubes 4 1/2" x 4 1/2" Material of tube plates steel Thickness: Front 1 1/2" Back 5/8" Mean pitch of stays 9"
Distance across wide water spaces 14 1/4" Working pressures by rules F. 213.4 lbs Girders to Chamber tops: Material steel Depth and thickness of girder at centre 7 1/2" x 1 1/2" Length as per rule 22 1/2" Distance apart 8" Number and pitch of Stays in each one, 5 1/4"
Working pressure by rules 181 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 —
Pitch of rivets — Working pressure of shell by rules — Diameter of flue — Material of flue plates — Thickness —
Fitted 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 *No donkey boiler fitted.*
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 _____
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 _____
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:— 2 bon. rod top end bolt+nut, 2 bon. rod bottom end bolt+nut, 2 Main bearing bolts+nuts, 1 set of coupling bolt+nut, 1 set of feed+ bilge pump valves, 1 set of piston springs for H.P. cyl, 120 bolt+nut, 1 set of H.P. valve+face with pins, 1 eccentric strap, 1 set of Ballast donkey valve, 1 Go-ahead eccentric rod, 1 slide valve spindle, 1 set of Air+ cir. pump valves, 2 Main+ 2 Feed check valves, 1 Spring gear, 1 Tail shaft + 1/3 crank shaft.

The foregoing is a correct description,

Manufacturer.

General Remarks— (State quality of workmanship, opinions as to class, &c. *The main steam pipes have been tested by hydraulic pressure to 320 lbs. per sq. in. and found tight.*

The Engines + Boilers of this vessel, have been constructed under Special Survey, and of a good quality of workmanship, they have been tried under steam, the safety valves adjusted and found to work well; and are now in safe + efficient working condition, and in my opinion, eligible to have L.M.C. 1,96 recorded in the Register Book.

Mudd's patent evaporator, and Mudd's patent tail shaft preserver are fitted.

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

L.M.C. 1,96

8.1.96

Certificate (if required) to be sent to

The amount of Entry Fee. £ 2: : When applied for, 6.1.96
Special £ 31: 3: : 18.96
Donkey Boiler Fee £ : : :
Travelling Expenses (if any) £ : : : 7.1.96

Committee's Minute

Assigned

FRI. JAN 10 1896

L.M.C. 1,96

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

MACHINERY CERTIFICATE
WRITTEN



© 2020

Lloyd's Register
Foundation

Dated 3rd

B & L (439W) - 55420-1

VESS

* These particulars

Signal Letters (if any)

Official Number.

105178

No., Date, and Port of

Whether British or Foreign Built.

British

Number of Decks

Number of Masts

Rigged

tern

build

Galleries

Lead

Framework and descr

vessel

Number of Bulkheads

Number of water balla

and their capacity in

Total to quarter the d
at side amidships to

of
Engines

Description

Engines.

Triple Exp

Direct Act

Boilers.

Number

Iron or Steel

Pressure when loa

Gross

Under Tonnage Deck

Closed-in spaces above

Space or spaces be

Poop

Forecastle

Round House

Other closed-in spa

Compan

Wharf

Ex Hat

Gross Ton

Deductions, as per C

Registered

Name of Mas

No. of Owners

Name, Residence, a