

# REPORT ON MACHINERY.

THUR. 10 SEP 1903

Port of WEST HARTLEPOOL

Received at London Office

No. in Survey held at Hartlepool Date, first Survey 1<sup>st</sup> Sept. 1902 Last Survey 4<sup>th</sup> Sept 1903  
Reg. Book. Steel S. S. "Blair Macleod" (Number of Visits 146)

on the Steel S. S. "Blair Macleod" Tons Gross 4796  
Net 3043

Master Gomic Built at N. Hartlepool By whom built Jurness, White & Co. Ltd. When built 1903

Engines made at Hartlepool By whom made Richardsons, Westgarth & Co. Ltd. When made 1903

Boilers made at Hartlepool By whom made Richardsons, Westgarth & Co. Ltd. When made 1903

Registered Horse Power 448 Owners Gayzer, Irvine & Co. Port belonging to Glasgow

Nom. Horse Power as per Section 28 452 Is Refrigerating Machinery fitted No Is Electric Light fitted Yes

## ENGINES, &c. — Description of Engines Triple expansion No. of Cylinders Three No. of Cranks Three

Dia. of Cylinders 26" 41" 41" Length of Stroke 48" Revs. per minute 69 Dia. of Screw shaft 16.9" Lgth. of stern bush 4'-6"

Dia. of Tunnel shaft 14" Dia. of Crank shaft journals 15" Dia. of Crank pin 15" Size of Crank webs 9 1/2" x 23 1/2" Dia. of thrust shaft under collars 16" Dia. of screw 17'-9" Pitch of screw 16'-3" to 19'-2" No. of blades 4 State whether moveable Yes Total surface 91 sq. ft.

No. of Feed pumps 2 Diameter of ditto 4 1/2" Stroke 24" Can one be overhauled while the other is at work Yes

No. of Bilge pumps 2 Diameter of ditto 4 1/2" Stroke 24" Can one be overhauled while the other is at work Yes

No. of Donkey Engines Two Sizes of Pumps 10x21" 13x21" No. and size of Suctions connected to both Bilge and Donkey pumps Two 3 1/2" dia.

In Engine Room Four 3 1/2" dia. In Holds, &c. Twelve. — One 2 1/2" dia in fore peak,

Two 3 1/2" dia. in each hold, and one 2 1/2" dia in tunnel well.

No. of bilge injections one sizes 6 1/2" Connected to condenser, or to circulating pump per pump Is a separate donkey suction fitted in Engine room & size Yes 3 1/2"

Are all the bilge suction pipes fitted with roses Yes Are the roses in Engine room always accessible Yes Are the stices 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 Yes

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 Non vessel Is the screw shaft tunnel watertight Yes

Is it fitted with a watertight door Yes worked from upper platform.

## BOILERS, &c. — (Letter for record S.) Total Heating Surface of Boilers 6107 sq. ft. Is forced draft fitted Yes (Howden)

No. and Description of Boilers 2 single ended. Cyl. Mult. Working Pressure 200 lbs. Tested by hydraulic pressure to 400 lbs.

Date of test 5-6-03 Can each boiler be worked separately Yes Area of fire grate in each boiler 62.9 sq. ft. No. and Description of safety valves to each boiler Two spring direct Area of each valve 110" Pressure to which they are adjusted 203 lbs. Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork 4'-4" Mean dia. of boilers 16'-2" Length 11'-9" Material of shell plates steel

Thickness 1 1/8" Range of tensile strength 28-32 Are they welded or flanged no Descrip. of riveting: cir. seams treble long. seams treble

Diameter of rivet holes in long. seams 1 1/8" Pitch of rivets 9 3/4" Lap of plates or width of butt straps 21"

Per centages of strength of longitudinal joint rivets 85-9 Working pressure of shell by rules 200 lbs. Size of manhole in shell 13" x 16 1/2"

Size of compensating ring 29" x 30" x 1 1/8" No. and Description of Furnaces in each boiler 3 Monson Material steel Outside diameter 50 3/4"

Length of plain part 7'-11" Thickness of plates 2 1/8" Description of longitudinal joint weld No. of strengthening rings 1

Working pressure of furnace by the rules 210 lbs. Combustion chamber plates: Material steel Thickness: Sides 2 1/8" Back 2 1/8" Top 2 1/8" Bottom 1"

Pitch of stays to ditto: Sides 9" x 4 3/4" Back 8 1/2" x 8 1/2" Top 8 1/2" x 8 1/2" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 204 lbs.

Material of stays steel Diameter at smallest part 1 1/2" Area supported by each stay 69.70" Working pressure by rules 202 lbs. End plates in steam space:

Material steel Thickness 1 1/8" Pitch of stays 14" x 14" How are stays secured D. N. & M. Working pressure by rules 203 lbs. Material of stays steel

Diameter at smallest part 2 3/8" Area supported by each stay 289.0" Working pressure by rules 205 lbs. Material of Front plates at bottom steel

Thickness 3/8" Material of Lower back plate steel Thickness 3/8" Greatest pitch of stays 13 1/2" Working pressure of plate by rules 204 lbs.

Diameter of tubes 2 1/2" Pitch of tubes 3 3/4" Material of tube plates steel Thickness: Front 1" Back 3/4" Mean pitch of stays 4 1/2"

Pitch across wide water spaces 13 1/2" Working pressures by rules 210 lbs. Girders to Chamber tops: Material steel Depth and thickness of girder at centre 1 1/2" Length as per rule 14' Distance apart 14' Number and pitch of Stays in each 1 14'

Working pressure by rules 210 lbs. Superheater or Steam chest; how connected to boiler Direct Can the superheater be shut off and the boiler worked separately Yes Diameter 14' Length 14' Thickness of shell plates 1 1/8" Material steel Description of longitudinal joint weld Diam. of rivet holes 1 1/8" Pitch of rivets 9 3/4" Working pressure of shell by rules 200 lbs. Diameter of flue 14' Material of flue plates steel Thickness 1 1/8"

If stiffened with rings Yes Distance between rings 14' Working pressure by rules 200 lbs. End plates: Thickness 1 1/8" How stayed Yes

Working pressure of end plates 210 lbs. Area of safety valves to superheater 110" Are they fitted with easing gear Yes

If not, state whether, and when, one will be sent. Is a Report also sent on the Heat of the ship?



