

REPORT ON MACHINERY.

Port of MIDDLESBROUGH-ON-TRES

Received at London Office 13 APR 1905

No. in Survey held at Stockton

Date, first Survey 3rd October Last Survey 3rd April 1905

Reg. Book Supplement on the Steel S.S. "Blacktor."

(Number of Visits 40)

Tons { Gross 5018.47
Net 1932.27
When built 1905

Master W Harper Built at Stockton By whom built Harper & Son

Engines made at Stockton By whom made Blair & Co Ltd when made 1905

Boilers made at Stockton By whom made Blair & Co Ltd when made 1905

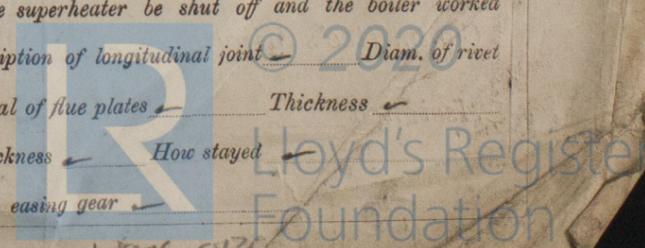
Registered Horse Power 280 Owners H N Holman Port belonging to London

Nom. Horse Power as per Section 28 280 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted No

ENGINES, &c.—Description of Engines Tip exp. direct acting No. of Cylinders 3 No. of Cranks 3
 Dia. of Cylinders 23 1/2 - 39 - 64 Length of Stroke 42 Revs. per minute 57 Dia. of Screw shaft as per rule 13.46 Material of W Iron
 as fitted 14 1/2 screw shaft
 Is the screw shaft fitted with a continuous liner the whole length of the stern tube Yes Is the after end of the liner made water tight
 in the propeller boss Yes If the liner is in more than one length are the joints burned No If the liner does not fit tightly at the part
 between the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive Yes If two
 liners are fitted, is the shaft lapped or protected between the liners No Length of stern bush 5-1
 Dia. of Tunnel shaft as per rule 11.6 Dia. of Crank shaft journals as per rule 12.25 Dia. of Crank pin 13 1/4 Size of Crank webs 20 1/2 x 8 1/2 Dia. of thrust shaft under
 as fitted 12 1/4 as fitted 12 3/4 collars 13 1/4 Dia. of screw 17-0 Pitch of screw 16 1/2 ft No. of blades 4 State whether moveable No Total surface 78 sq
 No. of Feed pumps 2 Diameter of ditto 3 Stroke 30 Can one be overhauled while the other is at work Yes
 No. of Bilge pumps 2 Diameter of ditto 4 1/2 Stroke 30 Can one be overhauled while the other is at work Yes
 No. of Donkey Engines Two Sizes of Pumps Feed 4x8 Boiler 9x10 No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room Three, 3" diameter In Holds, &c. Two each hold 3" diameter

No. of bilge injections 1 sizes 6 1/4 Connected to condenser, or to circulating pump CR Is a separate donkey suction fitted in Engine room & size Yes 4"
 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 No
 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 As ship
 Is it fitted with a watertight door Yes worked from Top platform upright

BOILERS, &c.— (Letter for record A) Total Heating Surface of Boilers 4200 sq Is forced draft fitted No
 No. and Description of Boilers Two Cyl. Tubular, single ended Working Pressure 180 lb Tested by hydraulic pressure to 360 lbs
 Date of test 3-12-04 Can each boiler be worked separately Yes Area of fire grate in each boiler 59 1/4 sq No. and Description of safety valves to
 each boiler Two Spring Area of each valve 8.29 sq Pressure to which they are adjusted 135 lb Are they fitted with easing gear Yes
 Smallest distance between boilers or uptakes and bunkers or woodwork 17" Mean dia. of boilers 15-3 Length 10-3 Material of shell plates Steel
 Thickness 1 5/16 Range of tensile strength 2732 Are they welded or flanged No Descrip. of riveting: cir. seams 2 D riv long. seams 2 Butt Strip
 Diameter of rivet holes in long. seams 1 5/16 Pitch of rivets Compon 8 3/4 Two 4 3/8 Lap of plates or width of butt straps 1-7 1/4
 Per centages of strength of longitudinal joint rivets 87.5 Working pressure of shell by rules 186.6 lb Size of manhole in shell 17 x 13
 plate 8.5 Size of compensating ring 31-27-16 1/16 No. and Description of Furnaces in each boiler 3 Crown's Material Steel Outside diameter 3-6 1/2
 Length of plain part top 6-7 Thickness of plates crown 9/16 Description of longitudinal joint welded No. of strengthening rings No
 bottom Working pressure of furnace by the rules 191 lb Combustion chamber plates: Material Steel Thickness: Sides 1 1/16 Back 1 1/16 Top 1 1/16 Bottom 13/16
 Pitch of stays to ditto: Sides 9 1/2 x 8 1/4 Back 9 1/4 x 8 1/2 Top 9 1/2 x 9 1/2 If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 181 lb
 Material of stays Iron Diameter at smallest part 1 9/16 Area supported by each stay 90.2 sq Working pressure by rules 193 lb End plates in steam space:
 Material Steel Thickness 1 5/8 Pitch of stays 19 1/8 x 15 How are stays secured NxW Working pressure by rules 214 lb Material of stays Iron
 Diameter at smallest part 3" Area supported by each stay 286.8 sq Working pressure by rules 184 lb Material of Front plates at bottom Steel
 Thickness 1 1/2 Material of Lower back plate Steel Thickness 1 5/8 Greatest pitch of stays 15 Working pressure of plate by rules 190.8 lb
 Diameter of tubes 3 1/2 Pitch of tubes 4 3/4 H. 4 7/8 Material of tube plates Steel Thickness: Front 1 1/32 Back 13/16 Mean pitch of stays 9 5/8
 Pitch across wide water spaces 14 Working pressures by rules F208 lb. B195 lb Girders to Chamber tops: Material Steel Depth and
 thickness of girder at centre 7 x 15 1/8 Length as per rule 26 1/4 Distance apart 9 1/2 Number and pitch of Stays in each Two 9 1/2
 Working pressure by rules 188 lb Superheater or Steam chest; how connected to boiler No Can the superheater be shut off and the boiler worked
 separately No Diameter No Length No Thickness of shell plates No Material No Description of longitudinal joint No Diam. of rivet
 holes No Pitch of rivets No Working pressure of shell by rules No Diameter of flue No Material of flue plates No Thickness No
 If stiffened with rings No Distance between rings No Working pressure by rules No End plates: Thickness No How stayed No
 Working pressure of end plates No Area of safety valves to superheater No Are they fitted with easing gear No



W876-0136

DONKEY BOILER— No. *One* Description *Cyl Mult. 2 plain furnaces*
 Made at *Stockton* By whom made *Niley Bros & Co* When made *1905* Where fixed *At the hole*
 Working pressure *90 lb* tested by hydraulic pressure to *180 lb* No. of Certificate *5368* Fire grate area *28.4* Description of safety valves *Spring*
 No. of safety valves *2* Area of each *7.07* Pressure to which they are adjusted *90 lb* If fitted with easing gear *Yes* If steam from main boilers can enter the donkey boiler *No* Dia. of donkey boiler *9'-6"* Length *9'-0"* Material of shell plates *Steel* Thickness *9/16"* Range of tensile strength *27/32* Descrip. of riveting long. seams *Lap tack riv* Dia. of rivet holes *15/16* Whether punched or drilled *D* Pitch of rivets *4"*
 Lap of plating *6 1/2"* Per centage of strength of joint Rivets *7.8* Thickness of shell plates *13/16* Radius of do. *-* No. of Stays to do. *4*
 Dia. of stays *2 1/4"* Diameter of furnace Top *2'-11"* Bottom *7'-9"* Length of furnace *top 5'-10"* Thickness of furnace plates *17/32* Description of joint *Welded* Thickness of furnace crown plates *15 1/2" 5 1/2"* Stayed by *Screw stays* Working pressure of shell by rules *91.5 lb*
 Working pressure of furnace by rules *93.5 lb* Diameter of *bottom 3 1/4"* Thickness of *table plates F 13/16 B 9/16* Thickness of *stay tubes 5/16"*

SPARE GEAR. State the articles supplied:— *Set of coupling bolts. Set of top & bottom and connecting rod bolts & nuts. Two main bearing bolts. Set of feed & bilge pump valves. A & M P piston springs & P piston springs. Main & Donkey feed check valves. Propeller, bolts & nuts assorted.*

The foregoing is a correct description,
 FOR BLAIR & CO., LIMITED, Manufacturer. *of main engines & boilers.*
Walter Bowie

SECRETARY.
 Dates { During progress of work in shops - - 1904 Oct 3-5-13-27-31. Nov 2-8-10-22-23-29. Dec 2-8-9-14-16-24. 1905 Jan 6-11-17-18-19-24-26.
 of Survey { During erection on board vessel - - Feb 1-6-8-10-15-17-20-22-27-29. Mar 1-4-20-29. Apr 3.
 while building { Total No. of visits *Forty* Is the approved plan of main boiler forwarded herewith *No* *Yes*
 " " " donkey " " " *Yes*

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

*The machinery and boilers of this vessel have been constructed under special survey, the materials and workmanship are good & efficient, & when tested under steam were found satisfactory & in my opinion now eligible for the notification *L.M.C. 4.05.* in the Register Book.*

It is submitted that this vessel is eligible for THE RECORD. *L.M.C. 4.05.*

JEM
13.4.05
13.4.05

The amount of Entry Fee.	£ 2 : 0 : 0	When applied for,
Special	£ 34 : 0 : 0	11. 4. 1905.
Donkey Boiler Fee	£ : : :	When received,
Travelling Expenses (if any) £	: : :	11. 4. 1905.

Geo. C. Milner
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute *FRI. 14 APR 1905*
 Assigned *+ L.M.C. 4.05*

MACHINERY CERTIFICATE WRITTEN.



Certificate (if required) to be sent to

The Surveyors are requested not to write on or below the space for Committee's Minute.