

REPORT ON MACHINERY.

No. 1314
Shew. No. 30983

Port of *Middlesbrough-on-Sea*

Received at London Office

NOV 1894

No. in Survey held at *Stockton-on-Sea*
Reg. Book.

Date, first Survey *9th June*

Last Survey *19th Sept. 1894*

(Number of Visits *10*)

77 on the *S/S "Banffshire"*

(*Hawmorn, Leslie 1671-324*)

Tons { Gross *5526.21*
Net *3603.14*

Master *B. Coull* Built at *Newcastle*

By whom built *R.M. Hawmorn, Leslie & Co.* When built *1894*

Engines made at *Newcastle*

By whom made *R. & W. Hawthorn, Leslie & Co. Ltd.* when made *1894*

Boilers made at *Stockton-on-Sea*

By whom made *Riley Bros.* when made *1894*

Registered Horse Power *600*

Owners *Alderslie Steam Shipping Co.*

Port belonging to *Glasgow.*

Nom. Horse Power as per Section 28 *379*

Turnbull, Martin & Co. Managers

ENGINES, &c.—

Description of Engines

Diameter of Cylinders	Length of Stroke	Revolutions per minute	No. of Cylinders
Diameter of Tunnel shaft as per rule	Diameter of Crank shaft journals	Diameter of Crank pin	Diameter of Screw shaft as per rule
Diameter of screw	Pitch of screw	No. of blades	State whether moveable
No. of Feed pumps	Diameter of ditto	Stroke	Total surface
No. of Bilge pumps	Diameter of ditto	Stroke	Can one be overhauled while the other is at work
No. of Donkey Engines	Sizes of Pumps	No. and size of Suctions connected to both Bilge and Donkey pumps	In Holds, &c.

No. of bilge injections sizes Connected to condenser, or to circulating pump

Are all the bilge suction pipes fitted with roses

Are all connections with the sea direct on the skin of the ship

Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates

Are they each fitted with a discharge valve always accessible on the plating of the vessel

What pipes are carried through the bunkers

Are all pipes, cocks, valves, and pumps in connection with the machinery and all boiler mountings accessible at all times

Are the bilge suction pipes, cocks, and valves arranged so as to prevent any communication between the sea and the bilges

When were stern tube, propeller, screw shaft, and all connections examined in dry dock

Is it fitted with a watertight door worked from

WATER TIGHT DOOR

OILERS, &c.— (Letter for record)

No. and Description of Boilers *One: by 1st Multi, Single ended* Working Pressure *160 lbs* Tested by hydraulic pressure to *320 lbs*

Date of test *10/9/94* Can each boiler be worked separately *yes* Area of fire grate in each boiler *50 sq. ft* No. and Description of safety valves to each boiler *Two, Spring* Area of each valve *5.94 sq. in* Pressure to which they are adjusted *162 lbs* Are they fitted with easing gear *yes* Smallest distance between boilers or uptakes and bunkers or woodwork *two tiers fitted between main boiler* Mean diameter of boilers *12' 0"*

Length *10' 0"* Material of shell plates *Steel* Thickness *1 1/2"* Description of riveting: circum. seams *Lap Double* long. seams *Butt Straps*

Diameter of rivet holes in long. seams *1 1/8"* Pitch of rivets *7/8"* *3 1/4"* Lap of plates or width of butt straps *16"*

Percentage of strength of longitudinal joint *87%* Working pressure of shell by rules *141 lbs* Size of manhole in shell *16" x 12"*

Size of compensating ring *4" x 1 1/2"* No. and Description of Furnaces in each boiler *3: plain* Material *Steel* Outside diameter *36"*

Length of plain part *3' 6"* Thickness of plates *19"* Description of longitudinal joint *welded* No. of strengthening rings *1: Adamson*

Working pressure of furnace by the rules *162 lbs* Combustion chamber plates: Material *Steel* Thickness: Sides *9/16"* Back *9/16"* Top *5/8"* Bottom *1/2"*

Pitch of stays to ditto: Sides *7/8" x 7/8"* Back *7/8" x 7/8"* Top *8" x 7/8"* If stays are fitted with nuts or riveted heads *Nuts* Working pressure by rules *182 lbs*

Material of stays *Steel* Diameter at smallest part *1 1/4"* Area supported by each stay *60 sq. in* Working pressure by rules *167 lbs* End plates in steam space: Material *Steel* Thickness *1 1/2"* Pitch of stays *16" x 17"* How are stays secured *blew nuts & washers* Working pressure by rules *195 lbs* Material of stays *Steel*

Diameter at smallest part *2 1/2"* Area supported by each stay *242 sq. in* Working pressure by rules *162 lbs* Material of Front plates at bottom *Steel*

Thickness *3/2"* Material of Lower back plate *Steel* Thickness *3/4"* Greatest pitch of stays *11"* Working pressure of plate by rules *160 lbs*

Diameter of tubes *3 1/4"* Pitch of tubes *4 1/2" x 4 1/2"* Material of tube plates *Steel* Thickness: Front *3/32"* Back *5/8"* Mean pitch of stays *9"*

Pitch across wide water spaces *15"* Working pressures by rules *160 lbs & 172 lbs* Girders to Chamber tops: Material *Steel* Depth and thickness of girder at centre *8 1/2" x 1 1/2"* Length as per rule *27"* Distance apart *9"* Number and pitch of Stays in each *2: 7/4"*

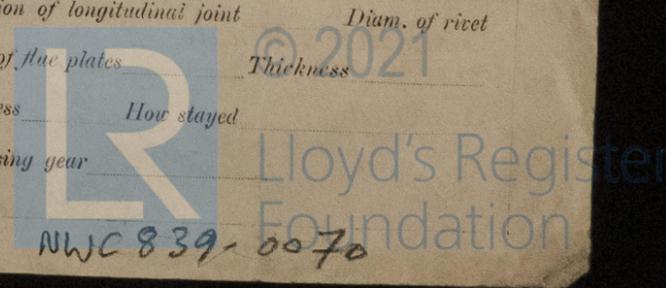
Working pressure by rules *180 lbs* Superheater or Steam chest; how connected to boiler *none* Can the superheater be shut off and the boiler worked separately

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

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

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 can 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 of 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:—

The foregoing is a correct description,

 Manufacturer.

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

This boiler was built under Special Survey and the materials and workmanship are good. When completed it was tested by hydraulic pressure to 320 lbs per sq. inch and found tight & sound. This boiler has been examined under steam, the safety valves adjusted, and found to work well.

 J. Stoddard

The Surveys are required to be made on or before the date for Committee's Minutes.

Certificate (if required) to be sent to _____

The amount of Entry Fee..	£	:	:	When applied for,
Special	£	4	4	4. 11. 18. 94
Donkey Boiler Fee	£	:	:	When received,
Travelling Expenses (if any) £	:	:	:	19/10/94

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

FRIDAY 23 NOV 1894

Committee's Minute
 Assigned

