

REPORT ON BOILERS.

Apl. No. 12776
No. 49390
THUR. 30 NOV 1905

Port of Newcastle-on-Tyne.

Received at London Office

19

No. in Survey held at Newcastle-on-Tyne. Date, first Survey July 19 Last Survey Aug 30 1905
 Reg. Book. Supplement 52 on the s.s. "Blair Macpherson." (Number of Visits 7)
 Master S. Beer 79.05. Built at West Hartlepool By whom built Furness, Withy & Co. Ltd. When built 1905
 Engines made at Hartlepool By whom made Richardsons Westgarth & Co. Ltd. when made 1905
 Boilers made at Hebburn. By whom made R. Stephenson & Co. Ltd. when made 1905
 Nominal Registered Horse Power 448 Owners Cayzer, Irvine & Co. when made 1905
 Port belonging to Glasgow

MULTITUBULAR BOILERS—MAIN, AUXILIARY OR DONKEY.—Manufacturers of Steel J. Spencer & Sons.
 (Letter for record) Total Heating Surface of Boilers 1250 sq. ft. Is forced draft fitted No.
 Boilers One, S. E. multitubular Working Pressure 100 lbs. Tested by hydraulic pressure to 200 lbs. Date of test 30/8/05.

No. of Certificate 7043. Can each boiler be worked separately Area of fire grate in each boiler 30 sq. ft. No. and Description of safety valves to each boiler Two spring loaded Area of each valve 5.94 sq. in. Pressure to which they are adjusted 104 lbs
 Are they fitted with easing gear Yes In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler No
 Smallest distance between boilers or uptakes and bunkers or woodwork 18" Mean dia. of boilers 11'-3" Length 9'-1 7/16"
 Material of shell plates Steel. Thickness 7/16" Range of tensile strength 28-32. Are the shell plates welded or flanged No.
 Descrip. of riveting: cir. seams Double & single long. seams Double R. Lap. Diameter of rivet holes in long. seams 15/16" Pitch of rivets 4 1/4"
 Lap of plates width of butt straps 6 7/8" Per centages of strength of longitudinal joint rivets 80.3. Working pressure of shell by rules 105 lbs. Size of manhole in shell 16" x 12" Size of compensating ring 7 1/2" x 7/16" No. and Description of Furnaces in each boiler Two, plain. Material Steel Outside diameter 3'-0 5/8" Length of plain part top 5'-10 1/2" Thickness of plates crown 1/2" bottom 1/2"
 Description of longitudinal joint D. Butt. No. of strengthening rings — Working pressure of furnace by the rules 104 lbs. Combustion chamber plates: Material Steel. Thickness: Sides 9/16" Back 9/16" Top 9/16" Bottom 7/16" Pitch of stays to ditto: Sides 8 1/2" Back 8 3/4" x 8 1/2"
 Top 9 1/2" If stays are fitted with nuts or riveted heads Riveted heads Working pressure by rules 108 lbs. Material of stays Iron. Diameter at smallest part 1 3/8" x 1 1/2" Area supported by each stay 74.3 sq. in. Working pressure by rules 12 1/4 lbs. End plates in steam space: Material Steel. Thickness 23/32"
 Pitch of stays 15" x 15" How are stays secured D. nuts & W. Working pressure by rules 108 lbs. Material of stays Iron. Diameter at smallest part 3/26"
 Area supported by each stay 225 sq. in. Working pressure by rules 108 lbs. Material of Front plates at bottom Steel. Thickness 23/32" Material of Lower back plate Steel. Thickness 23/32" Greatest pitch of stays 12" Working pressure of plate by rules 119 lbs. Diameter of tubes 3"
 Pitch of tubes 4 1/4" x 4 1/4" Material of tube plates Steel. Thickness: Front 23/32" Back 7/16" Mean pitch of stays 10 5/8" Pitch across wide water spaces 13 1/2" Working pressures by rules 101 lbs. Girders to Chamber tops: Material Steel. Depth and thickness of girder at centre 6 1/2" x 1 1/2" Length as per rule 2'-1" Distance apart 9 1/2" Number and pitch of Stays in each One.
 Working pressure by rules 104 lbs. Superheater or Steam chest; how connected to boiler — 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

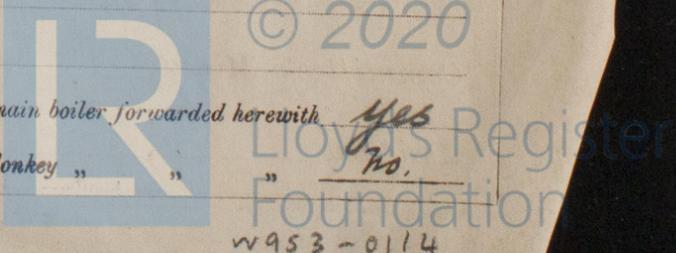
VERTICAL DONKEY BOILER—No. _____ Description _____ Manufacturers of steel _____
 Made at _____ By whom made _____ When made _____ Where fixed _____
 Working pressure tested by hydraulic pressure to _____ No. of Certificate _____ Fire grate area _____ Description of safety valves _____
 No. of safety 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 _____
 Dia. of donkey boiler _____ Length _____ Material of shell plates _____ Thickness _____ Range of tensile strength _____
 Descrip. of riveting long. seams _____ Dia. of rivet holes _____ Whether punched or drilled _____ Pitch of rivets _____
 Lap of plating _____ Per centage of strength of joint Rivets _____ Working pressure of shell by rules _____ 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 _____ Working pressure of furnace by rules _____ Thickness of furnace crown plates _____
 Stayed by _____ Diameter of uptake _____ Thickness of uptake plates _____ Thickness of water tubes _____

The foregoing is a correct description,

 Manufacturer.

Dates of Survey while building { During progress of work in shops - } 1905 July 19 Aug 2. 8. 16. 21. 28. 30.
 { During erection on board vessel - - - }
 Total No. of visits 7

Is the approved plan of main boiler forwarded herewith Yes
 " " " donkey " " No.



GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)

Boiler constructed under Special Survey, materials & workmanship good and efficient.

[Faint, mostly illegible handwritten notes and signatures covering the majority of the page.]

Certificate (if required) to be sent to
(The Surveyors are requested not to write on or below the space for Committee's Minute)

The amount of Entry Fee...	£	2 : 2	When applied for,
Special ...	£	:	6 th Sep 1905
Donkey Boiler Fee ...	£	:	When received, <i>H.W.</i>
Travelling Expenses (if any) £	£	:	15 th Sep 1905

H. G. Dearden & A. J. Graham
Engineer Surveyor to Lloyd's Register of British and Foreign Shipping.

Committee's Minute FRI, 1 DEC 1905
Assigned