

REPORT ON BOILERS.

Hpl. No. 12843.

No. 4404

INUM. 1 MAR 1906

Port of MIDDLESBROUGH-ON-TEES.

Received at London Office

19

No. in Survey held at Stockton Date, first Survey 14th Nov. 1905 Last Survey 19
 Reg. Book. 11111 on the Donkey Boiler (No 2066) for 4 1/2" Harperley Tons { Gross 39 90.13
 Master J. Holman Built at W. Hartlepool By whom built W. Gray & Co. Ltd When built 1906
 Engines made at W. Hartlepool By whom made General Machine & Work when made 1906
 Boilers made at W. Hartlepool By whom made General Machine & Work when made 1906
 Registered Horse Power 258 Owners J. B. Harrison Ltd. Port belonging to London

MULTITUBULAR BOILERS ~~MAIN, AUXILIARY OR DONKEY.~~—Manufacturers of Steel John Spencer & Son Ltd(Letter for record a) Total Heating Surface of Boilers 820 5 Is forced draft fitted No. and Description ofBoilers One Cyl Multitubular Working Pressure 90 lb Tested by hydraulic pressure to 180 lb Date of test 26.1.06No. of Certificate 3592 Can each boiler be worked separately ✓ Area of fire grate in each boiler 32 5 No. and Description ofsafety valves to each boiler Two Spring Area of each valve 1.290 Pressure to which they are adjusted 95 lbAre they fitted with easing gear ✓ In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler NoSmallest distance between boilers or uptakes and bunkers or woodwork ✓ Same dia. of boilers 10'-0" Length 10'-0"Material of shell plates Steel Thickness 19/32 Range of tensile strength 28/32 Are the shell plates welded or flanged NoDescrip. of riveting: cir. seams 28 1/2" long. seams 28 1/2" in Diameter of rivet holes in long. seams 15/16 Pitch of rivets 5 1/2"Lap of plates or width of butt straps 6 1/2 Per centages of strength of longitudinal joint 80.3 Working pressure of shell byrules 91.5 lb Size of manhole in shell 16 x 12 Size of compensating ring 5 1/2 x 13 1/16 No. and Description of Furnaces in eachboiler Two plain Material Steel Outside diameter 3'-0" Length of plain part 6'-7" Thickness of plates 9 1/16Description of longitudinal joint Welded No. of strengthening rings ✓ Working pressure of furnace by the rules 90 lb Combustion chamberplates: Material Steel Thickness: Sides 9 1/16 Back 9 1/16 Top 9 1/16 Bottom 21/32 Pitch of stays to ditto: Sides 8 3/8 x 9 1/2 Back 9 x 9 1/2Top 9 x 9 1/4 If stays are fitted with nuts or riveted heads Welded Working pressure by rules 94 lb Material of stays Iron Diameter atsmallest part 1 1/4" Area supported by each stay 85.5" Working pressure by rules 122 lb End plates in steam space: Material Steel Thickness 13 1/16Pitch of stays 8 1/2 x 17 1/2 How are stays secured Welded Working pressure by rules 102 lb Material of stays Iron Diameter at smallest part 4 3/8"Area supported by each stay 306.2" Working pressure by rules 105 lb Material of Front plates at bottom Steel Thickness 13 1/16 Material ofLower back plate Steel Thickness 13 1/16 Greatest pitch of stays 13 x 9 Working pressure of plate by rules 160 lb Diameter of tubes 3 1/4"Pitch of tubes 4 3/4 x 4 3/8 Material of tube plates Steel Thickness: Front 13 1/16 Back 11 1/16 Mean pitch of stays 11.3" Pitch across widewater spaces 14" Working pressures by rules 103 lb Girders to Chamber tops: Material Steel Depth and thickness ofgirder at centre 6 1/4 x 1 1/4 Length as per rule 2-1 1/4 Distance apart 9" Number and pitch of Stays in each One 9 1/4"Working pressure by rules 90 lb Superheater or Steam chest: how connected to boiler None Can the superheater be shut off and the boiler workedseparately ✓ Diameter ✓ Length ✓ Thickness of shell plates ✓ Material ✓ Description of longitudinal joint ✓ Diam. of rivetholes ✓ 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 canenter the donkey boiler ✓ Dia. of donkey boiler ✓ Length ✓ Material of shell plates ✓ Thickness ✓ Range of tensilestrength ✓ 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 crownplates ✓ Stayed by ✓ Diameter of uptake ✓ Thickness of uptake plates ✓ Thickness of water tubes ✓

The foregoing is a correct description,

Signature R. Johnston Manufacturer. of Donkey Boilers.

Dates of Survey while building { During progress of work in shops - - } 1905 November 14. Dec. 21 1906 January 4. 24. 26

During erection on board vessel - - -
 Total No. of visits

Is the approved plan of main boiler forwarded herewith

" " " donkey " "

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W664-0176

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

This boiler has been constructed under special survey the materials and workmanship are good & efficient and when tested with hydraulic pressure was found tight and satisfactory.

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...	£	:	:	When applied for.
Special	£	:	:	19...
Donkey Boiler Fee ...	£	2	2	When received.
Travelling Expenses (if any) £	:	:	:	19...

W. H. L.
Geo. C. Wilner
 Engineer Surveyor to Lloyd's Register of British and Foreign Shipping.

Committee's Minute

FRI. 2 MAR 1906

Assigned



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