

Rpt. 5.

# REPORT ON BOILERS.

Made No. 4351  
Hpl. No. 12793

Port of MIDDLESBROUGH-ON-TEES

Received at London Office 10

No. in Survey held at Stockton Date, first Survey Sept. 28 Last Survey Nov. 23 1905  
 Reg. Book. (Number of Visits 10)  
 on the Donkey Boiler No 2044 for S.S. "Venus" Gross 182.22  
 Master F.L. Edmunds Built at W. Hartlepool By whom built W. Gray & Co. Ltd. When built 1905  
 Engines made at Stockton By whom made Polin & Co. Ltd. when made 1905  
 Boilers made at Stockton By whom made Polin & Co. Ltd. when made 1905  
 Registered Horse Power 100 Owners Hanus & Green Ltd. Port belonging to London

## MULTITUBULAR BOILERS—MAIN, AUXILIARY OR DONKEY.—Manufacturers of Steel John Pomeroy & Son

(Letter for record a) Total Heating Surface of Boilers 770 sq ft Is forced draft fitted No No. and Description of Boilers One Cyl Multitubular Working Pressure 90 lb Tested by hydraulic pressure to 180 lb Date of test 10-11-05  
 No. of Certificate 3549 Can each boiler be worked separately ✓ Area of fire grate in each boiler 32 sq ft No. and Description of safety valves to each boiler 2 Spring loaded Area of each valve 8.29 sq in Pressure to which they are adjusted 92 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 12" Dia. of boilers 10'-0" Length 9'-6"  
 Material of shell plates Steel Thickness 19/32" Range of tensile strength 28/32 Are the shell plates welded or flanged No  
 Descrip. of riveting: cir. seams 2 Riv long. seams 2 Riv Diameter of rivet holes in long. seams 19/16" Pitch of rivets 3 1/2"  
 Lap of plates or width of butt straps 6 1/2" Per centages of strength of longitudinal joint rivets 80.13 Working pressure of shell by rules 95 lb Size of manhole in shell 12 x 16 Size of compensating ring 5 1/2 x 13/16 No. and Description of Furnaces in each boiler Two plain Material Steel Outside diameter 3'-0" Length of plain part top 6'-0 1/2" Thickness of plates crown 9/16" bottom 8'-2 1/2"  
 Description of longitudinal joint Welded No. of strengthening rings ✓ Working pressure of furnace by the rules 96 lb Combustion chamber plates: Material Steel Thickness: Sides 17/32" Back 1/2" Top 17/32" Bottom 2 1/32" Pitch of stays to ditto: Sides 9 3/4 x 8 7/8 Back 9 1/2 x 8 15/16 Top 9 3/4 x 9 If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 90 lb Material of stays Iron Diameter at smallest part 3.45 Area supported by each stay 84.5 Working pressure by rules 99 lb End plates in steam space: Material Steel Thickness 13/16" Pitch of stays 17 1/2 x 19 How are stays secured 2 x W Working pressure by rules 102 lb Material of stays Iron Diameter at smallest part 4.3 Area supported by each stay 322.5 Working pressure by rules 97 lb Material of Front plates at bottom Steel Thickness 13/16" Material of Lower back plate Steel Thickness 13/16" Greatest pitch of stays 13 x 9 Working pressure of plate by rules 182 lb Diameter of tubes 3 3/4" Pitch of tubes 4 3/4 x 4 3/8 Material of tube plates Steel Thickness: Front 13/16" Back 1 1/16" Mean pitch of stays 13.68 Pitch across wide water spaces 14" Working pressures by rules 90.6 lb Girders to Chamber tops: Material Steel Depth and thickness of girder at centre 6 1/4 x 1 1/4 Length as per rule 25 3/4 Distance apart 9" Number and pitch of Stays in each One 9 3/4  
 Working pressure by rules 91.4 lb 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 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,  
 THOMAS SUDRON & CO. LTD. Manufacturer.

Dates of Survey while building  
 During progress of work in shops -- 1905: Sept. 28, Oct. 10, 16, 25, 30, Nov. 8, 10  
 During erection on board vessel --- Nov. 16, 22, 23  
 Total No. of visits 10

Is the approved plan of main boiler forwarded herewith

" donkey "

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**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 tight and satisfactory.

Previous to this trip examined slight flaw at bottom of Donkey Boiler furnace which was found to extend for about 2 1/2"

Recommended the flaw to be chain <sup>which was done</sup> pinned as a temporary repair & furnace bottom to be re-examined & effectually repaired on the vessel's return

W. D. Thornton

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

The amount of Entry Fee...	£	:	:	When applied for.
Special ... ..	£	:	:	4.12.1905
Donkey Boiler Fee ...	£	2	2	When received.
Travelling Expenses (if any) £	:	:	:	Per hour ... 1905

*Geo A. Wilmet & J. Graham*  
Engineer Surveyor to Lloyd's Register of British and Foreign Shipping.

Committee's Minute

FRI. 22 DEC 1905



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