

REPORT ON BOILERS.

No. 4539

Port of MIDDLESBROUGH-ON-TEES.

Received at London Office SAI. APL 24 1906

No. in Survey held at Stockton
Reg. Book.

Date, first Survey 2nd Feby 1906 Last Survey 11th April 1906
(Number of Visits 14)

on the Donkey Boiler (No 3594) of S/S "Upcombe"
Tons { Gross 2484
Net 1885

Master N. Whitney Built at Stockton By whom built J. Spencer & Sons When built 1906

Engines made at Stockton By whom made Polain & Co. Ltd when made 1906

Boilers made at Stockton By whom made Polain & Co. Ltd when made 1906

Registered Horse Power _____ Owners A. F. Ash Port belonging to London

MULTITUBULAR BOILERS—MAIN, AUXILIARY OR DONKEY.—Manufacturers of Steel J. Spencer & Sons Ltd

(Letter for record) Total Heating Surface of Boilers Is forced draft fitted No No. and Description of

Boilers One single ended Working Pressure 90lb Tested by hydraulic pressure to 180lb Date of test 9.3.06

No. of Certificate 3624 Can each boiler be worked separately Area of fire grate in each boiler 29.2 sq ft No. and Description of

safety valves to each boiler Two Spring Area of each valve 7.07 sq in Pressure to which they are adjusted 90lb

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 8" Butt Mean dia. of boilers 10'-6" Length 9'-0"

Material of shell plates Steel Thickness 19/32 Range of tensile strength 27/32 Are the shell plates welded or flanged No

Descrip. of riveting: cir. seams DR Lap long. seams DR. Butt St Diameter of rivet holes in long. seams 15/16" Pitch of rivets 4"

Lap of plates or width of butt straps 9 1/2" Per centages of strength of longitudinal joint rivets 86.9 Working pressure of shell by plate 76.5

rules 95.5lb Size of manhole in shell 16" x 21" Size of compensating ring 9" x 3/4" No. and Description of Furnaces in each

boiler 2 plain Material Steel Outside diameter 3'-0" Length of plain part top 5'-9 1/2" Thickness of plates crown 14" bottom 32

Description of longitudinal joint welded No. of strengthening rings Working pressure of furnace by the rules 9lb Combustion chamber

plates: Material Steel Thickness: Sides 15/32 Back 1/2" Top 7/16" Bottom 19/32 Pitch of stays to ditto: Sides 9" x 4" Back 9" x 8 1/2"

Top 7" x 4 1/2" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 100lb Material of stays Iron Diameter at

smallest part 1 1/8" Area supported by each stay 63 sq in Working pressure by rules 94lb End plates in steam space: Material Steel Thickness 13/16" diameter 5/8"

Pitch of stays 16 3/4" x 20 1/2" How are stays secured Double Nuts Working pressure by rules 150lb Material of stays Steel Diameter at smallest part 2 1/4"

Area supported by each stay 344 sq in Working pressure by rules 116lb Material of Front plates at bottom Steel Thickness 13/16" Material of

Lower back plate Steel Thickness 13/16" Greatest pitch of stays 12 x 8 1/2" Working pressure of plate by rules 210 Diameter of tubes 3 1/4"

Pitch of tubes 4 5/8" x 4 3/8" Material of tube plates Steel Thickness: Front 13/16" Back 11/16" Mean pitch of stays 10 5/32" Pitch across wide

water spaces 13 1/2" Working pressures by rules 138lb Girders to Chamber tops: Material Steel Depth and thickness of

girder at centre 4 3/4" x 1 1/4" Length as per rule 2'-0" Distance apart 7 1/2" Number and pitch of Stays in each Two 7"

Working pressure by rules 9lb 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,
Geo W. P. Riley Manufacturer.

Dates of Survey while building { During progress of work in shops - - - } 1906 Feb. 2. 14. 21. 22. 27. March 25. 7. 9.
{ During erection on board vessel - - - } 28. April 5. 6. 10. 11.
Total No. of visits 14

Is the approved plan of main boiler forwarded herewith _____
" " " donkey " " _____
Lloyd's Register Foundation
W 745-0008

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

This boiler has been built under Special Survey
 The materials and workmanship are good and efficient
 After satisfactorily withstanding the hydraulic test it
 has been fitted and secured on board and tried
 under steam

Certificate (if required) to be sent to

The amount of Entry Fee...	£	:	:	When applied for,
Special	£	:	:	7.4 1906
Donkey Boiler Fee ...	£	2	: 2	When received,
Travelling Expenses (if any) £	:	:	:	14.4 1906

R D Shilston Geo A Milner
 Engineer Surveyor to Lloyd's Register of British and Foreign Shipping.

RSD

Committee's Minute **TUES. 24 APL 1906**

Assigned

*See minute on
 attached report*



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 Foundation