

# REPORT ON BOILERS.

No. 4503

Port of MIDDLESBROUGH-ON-TEES.

Received at London Office APR 6 1906

No. in Survey held at Stockton

Date, first Survey 13<sup>th</sup> Novr '05 Last Survey 23<sup>rd</sup> March 1906

Reg. Book. Supplement 48 on the Donkey Boiler (No 3618) for S/S "Eda"

(Number of Visits 14) Tons } Gross }  
Net }

Master \_\_\_\_\_ Built at Stockton By whom built Nashdown Duck & Co When built 1906

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

Boilers made at Stockton By whom made Riley Bros (Boilermakers) Ltd when made 1905

Registered Horse Power \_\_\_\_\_ Owners Prudick & Cook Port belonging to London

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

(Letter for record (a) ) Total Heating Surface of Boilers 863 ft<sup>2</sup> Is forced draft fitted No No. and Description of

Boilers One Cyl. Mult. single ended Working Pressure 90 lb Tested by hydraulic pressure to 180 lb Date of test 29.11.05

No. of Certificate 3559. Can each boiler be worked separately — Area of fire grate in each boiler 29 ft<sup>2</sup> No. and Description of

safety valves to each boiler Two spring Area of each valve 6.44 ft<sup>2</sup> Pressure to which they are adjusted 90 lb

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 15" Int'l Mean dia. of boilers 10'-0" Length 10'-0"

Material of shell plates Steel Thickness 9/16" Range of tensile strength 27/32 Are the shell plates welded or flanged No

Descrip. of riveting: cir. seams DR Lap. long. seams DRS. D. Riv. Diameter of rivet holes in long. seams 13/16" Pitch of rivets 3 1/2"

Lap of plates or width of butt straps 8 1/2" x 9/16" Per centages of strength of longitudinal joint rivets 78.8 Working pressure of shell by plate 76.8

rules 93.2 lb 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 6-6 Thickness of plates crown } 9" bottom 8-9 bottom } 7/16"

Description of longitudinal joint welded No. of strengthening rings ✓ Working pressure of furnace by the rules 90 lb Combustion chamber

plates: Material Steel Thickness: Sides 1/2" Back 1/2" Top 7/16" Bottom 5/8" Pitch of stays to ditto: Sides 7" x 9 1/2" Back 9 1/2" x 8 1/4"

Top 7" x 7" If stays are fitted with nuts or riveted heads, nuts Working pressure by rules 99 lb Material of stays Iron Diameter at

smallest part 1 3/8" Area supported by each stay 96 1/4 ft<sup>2</sup> Working pressure by rules 94.7 End plates in steam space: Material Steel Thickness 25/32"

Pitch of stays 18" x 17" How are stays secured DR Riv. 10 Working pressure by rules 112 Material of stays Iron Diameter at smallest part 2 1/2"

Area supported by each stay 306 ft<sup>2</sup> Working pressure by rules 120 lb Material of Front plates at bottom Steel Thickness 25/32" Material of

Lower back plate Steel Thickness 25/32" Greatest pitch of stays 12" x 9 1/2" Working pressure of plate by rules 80 lb Diameter of tubes 3 1/2"

Pitch of tubes 4 1/2" x 4 3/4" Material of tube plates Steel Thickness: Front 25/32" Back 9/16" Mean pitch of stays 9 1/4" Pitch across wide

water spaces 13 1/2" Working pressures by rules 124 lb Girders to Chamber tops: Material Steel Depth and thickness of

girder at centre 5 1/2" x 1 1/4" Length as per rule 2'-3" Distance apart 7" Number and pitch of Stays in each two 7"

Working pressure by rules 99 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, \_\_\_\_\_

FOR RILEY BROS. (BOILERMAKERS) LIMITED, \_\_\_\_\_ Manufacturer. \_\_\_\_\_

Dates of Survey while building \_\_\_\_\_ During progress of work in shops - - - \_\_\_\_\_ 1905 Novr. 13. 14. 23. 24. Decr. 1. 6. 8. 13. 19. 24

\_\_\_\_\_ During erection on board vessel - - - \_\_\_\_\_ 1906 March 13. 19. 23.

Total No. of visits \_\_\_\_\_ 14 \_\_\_\_\_ Is the approved plan of main boiler forwarded herewith \_\_\_\_\_

\_\_\_\_\_ " " " donkey " " \_\_\_\_\_ Yes

**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 secured on board and tried under steam.

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 ... ..	£	:	:	6.2.1906
Donkey Boiler Fee ...	£	2	2	When received.
Travelling Expenses (if any) £	:	:	:	23.2.1906

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

Committee's Minute

TUES. 10 APR 1906

Assigned

*See minute  
 on attached report.*



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 Foundation