

Rpt. 5.

REPORT ON BOILERS.

Port of MIDDLESBROUGH-ON-TEES.

Received at London Office

No. 4302

Dec. 15 1905

No. in Survey held at Stockton

Date first Survey 13th Sept.

Last Survey 13 Dec 1905

Reg. Book.

on the Donkey Boiler (No 3581) s.s. Alga

Master J. Randich Built at Newcastle By whom built Sam Hunter & Richardson When built 1905

Engines made at Lundulaw By whom made Richardson Westgate & Co. Ltd when made 1905

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

Registered Horse Power Owners Algo. S. S. Co. Ltd. Port belonging to Lieute.

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

(Letter for record (S)) Total Heating Surface of Boilers 720 sq ft Is forced draft fitted No. and Description of Boilers One cyl. Mult. single ended Working Pressure 90 lb Tested by hydraulic pressure to 180 lb Date of test 14.10.05

No. of Certificate 3535 Can each boiler be worked separately ✓ Area of fire grate in each boiler 25.5 sq ft No. and Description of safety valves to each boiler Two Spring Area of each valve 4.9 Pressure to which they are adjusted 90

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 Side bunker 10" Int. dia. of boilers 9'-6" Length 8'-6"

Material of shell plates Steel Thickness 7/16" Range of tensile strength 27/32 Are the shell plates welded or flanged No

Descrip. of riveting: cir. seams S.R. Lap long. seams Treb. Riv. Lap Diameter of rivet holes in long. seams 15/16" Pitch of rivets 4 1/8"

Lap of plates or width of butt straps 6 1/2" Per centages of strength of longitudinal joint rivets 75.8 plate 77.27 Working pressure of shell by rules 90.6 lb Size of manhole in shell 16" x 21" Size of compensating ring 9" x 3 1/4"

No. and Description of Furnaces in each boiler Two plain Material steel Outside diameter 2'-10" Length of plain part top 5'-3 1/2" Thickness of plates crown 1" bottom 1/2"

Description of longitudinal joint welded No. of strengthening rings ✓ Working pressure of furnace by the rules 90.8 Combustion chamber plates: Material Steel Thickness: Sides 15/32" Back 17/32" Top 7/16" Bottom 9/16" Pitch of stays to ditto: Sides 7" x 9" Back 9" x 10"

Top 7" x 8" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 96 lb Material of stays Steel Diameter at smallest part 1 1/8" Area supported by each stay 72 sq in Working pressure by rules 125 End plates in steam space: Material Steel Thickness 13/16"

Pitch of stays 16" x 18" How are stays secured by riv. stay Working pressure by rules 117 Material of stays Steel Diameter at smallest part 1 1/8"

Area supported by each stay 288 sq in Working pressure by rules 95.7 Material of Front plates at bottom Steel Thickness 13/16" Material of Lower back plate Steel Thickness 13/16" Greatest pitch of stays 11" x 9" Working pressure of plate by rules 228 Diameter of tubes 8 1/2"

Pitch of tubes 4 1/2" x 4 1/2" Material of tube plates Steel Thickness: Front 13/16" Back 9/16" Mean pitch of stays 10 3/8" Pitch across wide water spaces 13 1/2" Working pressures by rules 105 lb Girders to Chamber tops: Material Steel Depth and thickness of girder at centre 5" x 1 1/4" Length as per rule 24" Distance apart 8" Number and pitch of Stays in each two 7"

Working pressure by rules 94.8 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 Plates 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, B. Riley Manufacturer.

Dates of Survey while building During progress of work in shops During erection on board vessel Total No. of visits

1905: Sept. 13. 14. 21. 26 Oct. 10. 12. 14

Is the approved plan of main boiler forwarded herewith " " " donkey " " Yes

W1086-0232

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

This donkey boiler has been built under special survey.
The materials and workmanship are good and efficient.
After satisfactorily withstanding the hydraulic test it
has been despatched for fitting on board.
The boiler has been fitted properly & the safety
set & tested under steam.

J H Heck

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) £	:	:	:	10 Nov 1905

FRI. 15 DEC 1905

Committee's Minute

Assigned

R D Shulston / John H Heck.
Engineer Surveyor to Lloyd's Register of British and Foreign Shipping.



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Foundation