

Rpt. 5a.

REPORT ON BOILERS.

Slid rpt No 29118.

Molt. No. 12344

Received at London Office

Date of writing Report 8/5/1925 When handed in at Local Office

Port of Middlesbrough

No. in Reg. Book. Survey held at Stockton-on-Tees

Date, First Survey 10th March Last Survey 8/5/1925

on the

"Sylvafield"

(Number of Visits 5569-10 5570-13)

Gross 5709 Net 3392 Tons

Master Built at Sunderland

By whom built W. Sanford & Sons

Yard No. 693 When built 1925

Engines made at Sunderland

By whom made W. Sanford & Sons

Engine No. 583 When made 1925

Boilers made at Stockton

By whom made Messrs Riley Bros Ltd.

Boiler Nos 5569-5570 When made 1925

Nominal Horse Power

Owners Huntingdon & Son

Port belonging to Newcastle

MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel David Colville & Sons, Ltd.

(Letter for Record (S))

Total Heating Surface of Boilers 2 x 1203 sq ft = 2406 sq ft

Is forced draught fitted No

Coal or Oil fired OIL

No. and Description of Boilers Two Single Ended

Working Pressure 120 lbs

Tested by hydraulic pressure to 230 lbs

Date of test 8-5-25

No. of Certificate 6460

Can each boiler be worked separately YES

Area of Firegrate in each Boiler

No. and Description of safety valves to each boiler 2 Spring Valves

Area of each set of valves per boiler

per Rule 13.3 sq ft as fitted 14.14 sq ft

Pressure to which they are adjusted 120 lbs

Are they fitted with easing gear YES

In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler

Smallest distance between boilers or uptakes and bunkers or woodwork 23"

Is oil fuel carried in the double bottom under boilers NO

Smallest distance between shell of boiler and tank top plating 28"

Boilers on upper deck

Is the bottom of the boiler insulated YES

Largest internal dia. of boilers 124.75"

Length 11'-6"

Shell plates: Material Steel

Tensile strength 28-32 tons

Thickness 5/8"

Are the shell plates welded or flanged No

Description of riveting: circ. seams end DR. Lap.

long. seams Double Butt straps Double Riveted Three Rivets in pitch

Diameter of rivet holes in circ. seams 15/16" long. seams 13/16"

Pitch of rivets 3" x 6" 4 1/2"

Percentage of strength of circ. end seams plate 68.66 rivets 45.2

Percentage of strength of circ. intermediate seam plate rivets

Percentage of strength of longitudinal joint plate 81.9 rivets 85.3 combined 92.4

Working pressure of shell by Rules 120 lbs.

Thickness of butt straps outer 8 3/4" x 1/2" inner 8 3/4" x 5/8"

No. and Description of Furnaces in each Boiler Two Dightons.

Material Steel

Tensile strength 26-30 tons

Smallest outside diameter 33.75"

Length of plain part top 6' 6" bottom 6' 6"

Thickness of plates crown 3/8" bottom 3/8"

Description of longitudinal joint Weld

Dimensions of stiffening rings on furnace or c.c. bottom None

Working pressure of furnace by Rules 156 lbs

End plates in steam space: Material Steel

Tensile strength 26-30 tons

Thickness 13/16" Pitch of stays 19 x 13/14 12 1/4 tubes

How are stays secured Double Nuts & loose washers 8" x 3/4"

Working pressure by Rules 121 lbs

Tube plates: Material front Steel back Steel

Tensile strength 26-30 tons 26-20 tons

Thickness 13/16" 11/16"

Mean pitch of stay tubes in nests 9.58

Pitch across wide water spaces 14 1/2" x 7 1/4"

Working pressure front 123 lbs back 182

Girders to combustion chamber tops: Material Steel

Tensile strength 28-32 tons

Depth and thickness of girder

at centre 6 1/2" x 1 1/2"

Length as per Rule 30"

Distance apart 10"

No. and pitch of stays

in each 2 c 10"

Working pressure by Rules 125 lbs

Combustion chamber plates: Material Steel

Tensile strength 26-30 tons

Thickness: Sides 19/32"

Back 19/32"

Top 19/32"

Bottom 3/4"

Pitch of stays to ditto: Sides 10" x 10"

Back 10" x 10"

Top 10" x 10"

Are stays fitted with nuts or riveted over nuts

Working pressure by Rules 121 lbs

Front plate at bottom: Material Steel

Tensile strength 26-30 tons

Thickness 13/16"

Lower back plate: Material Steel

Tensile strength 26-30 tons

Thickness 13/16"

Pitch of stays at wide water space 14 1/2" x 10"

Are stays fitted with nuts or riveted over nuts

Working Pressure 172 lbs

Main stays: Material Steel

Tensile strength 28-32 tons

Diameter At body of stay, 2 1/4"

No. of threads per inch 6

Area supported by each stay 254 sq in

Working pressure by Rules 136 lbs

Screw stays: Material Steel

Tensile strength 26-30 tons

Diameter At turned off part, 1 1/2"

No. of threads per inch 9

Area supported by each stay 100 sq in

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Working pressure by Rules 125 lbs Are the stays drilled at the outer ends No ✓ Margin stays: Diameter { At turned off part, 1 5/8 ✓
or Over threads
No. of threads per inch 9 ✓ Area supported by each stay 122.5 ✓ Working pressure by Rules 124 lbs
Tubes: Material Iron ✓ External diameter { Plain 2 1/2 . 10 W.G. ✓ Thickness { 10 W.G. ✓ No. of threads per inch 9 ✓
Stay 2 1/2 . 5/16" ✓
Pitch of tubes 3 3/4" x 3 7/8" ✓ Working pressure by Rules 162 4/5 lbs Manhole compensation: Size of opening in
shell plate 14" x 20" ✓ Section of compensating ring 7 x 7/8" (mc) ✓ No. of rivets and diameter of rivet holes 36 - 1 5/16" rivet ✓
Outer row rivet pitch at ends 6" ✓ Depth of flange if manhole flanged ✓ ✓ Steam Dome: Material ✓
Tensile strength _____ Thickness of shell _____ Description of longitudinal joint _____
Diameter of rivet holes _____ Pitch of rivets _____ Percentage of strength of joint { Plate _____
Rivets _____
Internal diameter _____ Working pressure by Rules _____ Thickness of crown _____ No. and diameter of
stays _____ Inner radius of crown _____ Working pressure by Rules _____
How connected to shell _____ Size of doubling plate under dome _____ Diameter of rivet holes and pitch
of rivets in outer row in dome connection to shell _____

Type of Superheater _____ Manufacturers of { Tubes _____
Steel castings _____
Number of elements _____ Material of tubes _____ Internal diameter and thickness of tubes _____
Material of headers _____ Tensile strength _____ Thickness _____ Can the superheater be shut off and
the boiler be worked separately _____ Is a safety valve fitted to every part of the superheater which can be shut off from the boiler _____
Area of each safety valve _____ Are the safety valves fitted with easing gear _____ Working pressure as per
Rules _____ Pressure to which the safety valves are adjusted _____ Hydraulic test pressure _____
tubes _____, castings _____ and after assembly in place _____ Are drain cocks or valves fitted
to free the superheater from water where necessary _____

Have all the requirements of Sections 14 to 23 inclusive for boilers been complied with _____

FOR

RILEY BROS. (BOILERMAKERS) LIMITED.
The foregoing is a correct description,

J. H. Shields

SECRETARY, Manufacturer

Dates of Survey { During progress of 5569
work in shops - - - Mar 10-12-20-25-30 Apr 3-7-17-24-30 Are the approved plans of boiler and superheater forwarded herewith yes ✓
(If not state date of approval.)
while building { During erection on 5570
board vessel - - - Mar 10-12-20-25-30 Apr 3-7-17-24-30 Total No. of visits 5569-10
May 4-6-8 5570-13

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

These boilers have been constructed under
Special Survey, they are of good material and
workmanship, on completion were tested by
hydraulic pressure with satisfactory results.

These auxiliary boilers have now been fitted and fixed on the vessel in
a satisfactory manner and on completion the oil burning installation
was tried under working conditions and found satisfactory.

W. A. Stuke

Survey Fee ... £ 16 : - : - When applied for, 192
Travelling Expenses (if any) £ : : When received, 192

W. A. Stuke
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute _____

Assigned _____

FRI. 23 OCT 1925



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