

Rpt. 5a.

REPORT ON BOILERS.

Std. No. 29779

Moll No. 13303

Received at London Office

16 MAY 1928

30 JUN 1928

Date of writing Report 14.5.1928 When handed in at Local Office

14.5.1928

Port of MIDDLESBROUGH

No. in Survey held at Stockton

Date, First Survey 16.3.28

Last Survey

25.1 June 1928
11.5.1928

on the donkey boiler for & "LLANFAIR" (The Hon. Riley Nos No. 5779)

(Number of Visits 6)

Gross 54966
Net 2985

Master Built at Sunderland By whom built Barton & Sons Yard No. 263 When built 1928

Engines made at Stockton By whom made Blair & Co (1926) Ltd Engine No. 1978 When made 1928

Boilers made at . d . By whom made . d . Boiler No. 1978 When made 1928

Nominal Horse Power Owners Evans, Thomas Radcliffe & Co Port belonging to London

MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel David Colville & Sons Ltd (Letter for Record S)

Total Heating Surface of Boilers 1550 sq ft Is forced draught fitted no Coal or Oil fired Coal

No. and Description of Boilers One S.B. Working Pressure 120 lbs

Tested by hydraulic pressure to 230 lbs Date of test 11.5.28 No. of Certificate 6637 Can each boiler be worked separately

Area of Firegrate in each Boiler 50 sq ft No. and Description of safety valves to each boiler Two Direct Spring loaded

Area of each set of valves per boiler { per Rule 14.340 as fitted 14.140 Pressure to which they are adjusted 125 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. Non-return Valve fitted

Smallest distance between boilers on uptake and bunkers on woodwork 1' 9" Is oil fuel carried in the double bottom under boilers

Smallest distance between shell of boiler and tank top plating 2' 0" Is the bottom of the boiler insulated Yes

Largest internal dia. of boilers 12' 6" Length 11' 0" Shell plates: Material Steel Tensile strength 28/32

Thickness 23/32 Are the shell plates welded or flanged no Description of riveting: circ. seams end D.R

long. seams T.R.D.B.S. Diameter of rivet holes in { circ. seams 15/16 long. seams 13/16 Pitch of rivets { 2 3/4 x 5 1/2 5 1/2

Percentage of strength of circ. end seams { plate 68.7 rivets 42.4 Percentage of strength of circ. intermediate seam { plate rivets

Percentage of strength of longitudinal joint { plate 86.3 rivets 93.6 combined 87.3 Working pressure of shell by Rules 123 lbs

Thickness of butt straps { outer 9/16 inner 11/16 No. and Description of Furnaces in each Boiler 3 Corrugated

Material Steel Tensile strength 26/30 Smallest outside diameter 2' 11 3/4"

Length of plain part { top bottom Thickness of plates { crown 3/8 bottom 3/8 Description of longitudinal joint Weld

Dimensions of stiffening rings on furnace or c.c. bottom Working pressure of furnace by Rules 147 lbs

End plates in steam space: Material Steel Tensile strength 26/30 Thickness 3/4 Pitch of stays 16 3/4 x 15"

How are stays secured D.N.W. Working pressure by Rules 121 lbs

Tube plates: Material { front Steel back Steel Tensile strength { 26/30 Thickness { 11/16 9/8

Mean pitch of stay tubes in nests 10" Pitch across wide water spaces 13 7/8 Working pressure { front 123 lbs back 137 lbs

Girders to combustion chamber tops: Material Steel Tensile strength 28/32 Depth and thickness of girder

at centre 8 x 8 (double) Length as per Rule 2' 8" Distance apart 10" No. and pitch of stays

in each 2 - 10 1/2 x 10 Working pressure by Rules 146 lbs Combustion chamber plates: Material Steel

Tensile strength 26/30 Thickness: Sides 5/8 Back 17/32 Top 5/8 Bottom 5/8

Pitch of stays to ditto: Sides 10" x 10 1/2 Back 8 1/2 x 9 1/4 Top 10" x 10 1/2 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

Thickness 11/16 Lower back plate: Material Steel Tensile strength 26/30 Thickness 3/2

Pitch of stays at wide water space 13 7/8 Are stays fitted with nuts or riveted over nuts

Working Pressure 120 lbs Main stays: Material Steel Tensile strength 28/32

Diameter { At body of stay, 2 3/8 No. of threads per inch 6 Area supported by each stay 251

Over threads 120 lbs Screw stays: Material Steel Tensile strength 26/30

Diameter { At turned off part, 1 1/2 No. of threads per inch 9 Area supported by each stay 105

Over threads Lloyd's Register Foundation

W57-0204

Working pressure by Rules 120 lbs. Are the stays drilled at the outer ends no. Margin stays: Diameter { At turned off part, 1 1/2" or Over threads 1 1/2" ✓
No. of threads per inch 9. Area supported by each stay 104 in² Working pressure by Rules 120 lbs
Tubes: Material iron External diameter { Plain 3 1/4 to 3 7/16 Stay 3" to 3 3/4" Thickness { 10 W.G. 9/16" No. of threads per inch 9 ✓
Pitch of tubes 4 3/8" x 4 1/4" Working pressure by Rules p. 130 s. 257 lbs. Manhole compensation: Size of opening in shell plate 16" x 20" ✓ Section of compensating ring 7" x 1" ✓ No. of rivets and diameter of rivet holes 44 - 15/16" ✓
Outer row rivet pitch at ends 6" ✓ Depth of flange if manhole flanged 3" 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
How connected to shell Inner radius of crown Working pressure by Rules
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

Yes OR
The foregoing is a correct description.
J. H. Shields SECRETARY Manufacturer.

Dates of Survey { During progress of work in shops - - - 1928 Mar 16, Apr 18-25, May 1-8-11. Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.)
while building { During erection on board vessel - - - Total No. of visits 6

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)
This boiler is a duplicate of Messrs Riley's No 5709 Ind. Rpt No 13223.
The materials and workmanship are good. This boiler has been built under special survey in accordance with the Rules and approved Plan. The work of installation aboard will be carried out at Sunderland.
The Donkey Boiler has been satisfactorily fitted in the vessel, and the Safety Valves adjusted under steam to 125 lbs.

Survey Fee ... £ 10-6-0. When applied for, 192
Travelling Expenses (if any) £ : : When received, 192

MONTHLY A/c

P. J. Macdonald & A. Griffiths
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUES. 10 JUL 1928
Assigned See Report attached