

REPORT ON BOILERS.

Std. No. 31814
No. 15604
12 MAY 1936
FEB 1936

Date of writing Report 6. 2. 1936 When handed in at Local Office 6. 2. 1936 Port of MIDDLESBROUGH

No. in Reg. Book. Survey held at STOCKTON Date, First Survey 27 Nov/35 Last Survey 5. 2. 1936

on the M.V. "PEEBLES" (Number of Visits 14) Gross 4982 Tons Net 3062

Master Built at Sunderland By whom built W. Doreford & Sons Ltd Yard No. 625 When built 1936

Engines made at Sunderland By whom made Wm Doreford & Sons Ltd Engine No. 620 When made 1936

Boilers made at Stockton By whom made Stockton Chem. Eng'g & Riley, Bls. Ltd Boiler No. 6163 When made 1936

Nominal Horse Power 388 Owners B. J. Sutherland & Co Ltd Port belonging to Newcastle

MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Steel Company of Scotland (Letter for Record S)

Total Heating Surface of Boilers 1390 sq ft Is forced draught fitted no Coal or Oil fired oil

No. and Description of Boilers 1 S.B. Working Pressure 120 lbs

Tested by hydraulic pressure to 230 lbs Date of test 5. 2. 36 No. of Certificate 6889 Can each boiler be worked separately ✓

Area of Firegrate in each Boiler ✓ No. and Description of safety valves to each boiler 2 Quiet Spring

Area of each set of valves per boiler per Rule 12.83 as fitted 16.607 Pressure to which they are adjusted 120 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 ✓ Is oil fuel carried in the double bottom under boilers no

Smallest distance between shell of boiler and tank top plating 2'-10" Is the bottom of the boiler insulated Yes

Largest internal dia. of boilers 11'-10 5/8" Length 11'-0" Shell plates: Material steel Tensile strength 29/33

Thickness 46 Are the shell plates welded or flanged no Description of riveting: circ. 3/8 end D.R. inter. 5/8

long. seams T.R.D.B.S (4 rivets) Diameter of rivet holes in circ. seams 1 1/16 long. seams 13/16 Pitch of rivets 5/8

Percentage of strength of circ. end seams plate 68.5 rivets 45.6 Percentage of strength of circ. intermediate seam plate 84.88 rivets 83.7 Working pressure of shell by Rules 123 lbs

Thickness of butt straps outer 9/16 inner 4/16 No. and Description of Furnaces in each Boiler 2 c.f.

Material steel Tensile strength 26/30 Smallest outside diameter 3'-11 1/2"

Length of plain part top 13" bottom 32 Thickness of plates bottom 32 Description of longitudinal joint weld

Dimensions of stiffening rings on furnace or c.c. bottom ✓ Working pressure of furnace by Rules 121 lbs

End plates in steam space: Material steel Tensile strength 26/30 Thickness 27/32 Pitch of stays 16 x 17 1/2"

How are stays secured D.N & W and D.N & R.W. Working pressure by Rules 139 lbs

Tube plates: Material front steel back steel Tensile strength 26/30 Thickness 3/16 Working pressure front 157 lbs back 125 lbs

Mean pitch of stay tubes in nests 11 1/4" x 7 1/16" Pitch across wide water spaces 13 1/2" x 7"

Girders to combustion chamber tops: Material steel Tensile strength 28/32 Depth and thickness of girder at centre 7 x 7/8 (double) Length as per Rule 2'-6 1/2" Distance apart 8" No. and pitch of stays in each 2-9 1/2" Working pressure by Rules 141 lbs Combustion chamber plates: Material steel

Tensile strength 26/30 Thickness: Sides 19/32 Back 9/16 Top 19/32 Bottom 11/16

Pitch of stays to ditto: Sides 10 x 9 (mean) Back 8 1/4 x 9 1/2" Top 8 x 9 1/2" Are stays fitted with nuts or riveted over nuts

Working pressure by Rules 129 lbs Front plate at bottom: Material steel Tensile strength 26/30

Thickness 27/32 Lower back plate: Material steel Tensile strength 26/30 Thickness 27/32

Pitch of stays at wide water space 13 1/2" x 9 1/2" Are stays fitted with nuts or riveted over nuts

Working Pressure 213 lbs Main stays: Material steel Tensile strength 26/32

Diameter At body of stay 2 1/4" or Over threads 2 1/4" No. of threads per inch 6 Area supported by each stay 259.6

Working pressure by Rules 133 lbs Screw stays: Material steel Tensile strength 26/30

Diameter At turned off part 1 3/8" or Over threads 1 3/8" No. of threads per inch 9 Area supported by each stay 74.5

Working pressure by Rules 135 lbs. Are the stays drilled at the outer ends no Margin stays: Diameter ^{At turned off part} 1 7/8" or ^{Over threads} 1 7/8"

No. of threads per inch 9 Area supported by each stay 100 sq Working pressure by Rules 152 lbs.

Tubes: Material lapwelded mild steel External diameter ^{Plain} 2 1/2" to 2 9/16" Thickness ^{Stay} 5/16" No. of threads per inch 9

Pitch of tubes 3 1/2" x 3 3/4" Working pressure by Rules p. 175 lbs. s. 221 lbs. Manhole compensation: Size of opening in shell plate 20" x 16" Section of compensating ring 7" x 1" No. of rivets and diameter of rivet holes 411 - 15/16"

Outer row rivet pitch at ends 7" 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 —

Date of writing —

No. in Surv Reg. Book. — on the —

Master —

Boilers made at —

Owners B

VERTICAL

Made at —

tested by hydraulic —

No. of safety valves —

enter the donkey —

Range of tensile —

drilled drilled

rules 125

furnace—Top —

pressure of fuel —

crown plates —

plates 9/16

Diameter of tubes —

External diameter —

Working pressure —

ring 2 3/4"

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 —

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 22 inclusive for boilers been complied with Yes and on behalf of Stockton Chemical Engineers & Riley Boilers Ltd.

The foregoing is a correct description, Geo. W. Riley Manufacturer.

DIRECTOR.

Dates of Survey ^{During progress of work in shops - -} 1935: Nov 27 Dec 4, 9, 12, 17, 23, 28 1936 Are the approved plans of boiler and superheater forwarded herewith 21. 11. 35 (If not state date of approval.)

^{During erection on board vessel - - -} Jan 6, 10, 15, 21, 27, 31 Feb 5 Total No. of visits —

Is this Boiler a duplicate of a previous case Yes. If so, state Vessel's name and Report No. "CAITHNESS" - Ind. Rpt. 4517

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

The materials and workmanship are good.

This boiler has been built under special survey in accordance with the Rules and approved Plan. It will be fitted aboard at Sunderland.

This boiler has been securely fixed on board the vessel examined under steam, safety valves adjusted to working pressure & accumulation test carried out satisfactorily.

In recommendation see memo Rpt 6
J. H. Fraser

Survey Fee £ 9.6-0.1 When applied for, 6. 2. 1936

Travelling Expenses (if any) £ — When received, 5. 5. 1936

P. J. McA...

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUE. 19 MAY 1936

Assigned See minute on J.H. Rpt.