

REPORT ON BOILERS.

No. 93142

of writing Report 28/10/35 When handed in at Local Office 6/11/35 Port of NEWCASTLE ON TYNE

Survey held at WALKER ON TYNE.

Date, First Survey 4 Feb

Last Survey 4th Nov 1935

on the Steel Twin Sc. "UMTATA"

(Number of Visits)

Gross 8137.
Tons Net 5061.

Built at Walker on Tyne

By whom built Soren Hunter & Wigham Richardson Ltd

Yard No. 1480 When built 1935 Oct.

Lines made at Walker.

By whom made S. H. & W. R. Ltd.

Engine No. 1480 When made 1935

Boilers made at Walker

By whom made S. H. & W. R. Ltd

Boiler No. 1480 When made 1935

Indicated Horse Power 1118

Owners Messrs Bullard King & Co Ltd

Port belonging to LONDON.

MULTITUBULAR BOILERS—MAIN, ~~AUXILIARY, OR DONKEY.~~

Manufacturers of Steel The Steel Coy of Scotland

(Letter for Record S)

Heating Surface of Boilers 14184 sq. ft.

Is forced draught fitted Yes.

Coal or Oil fired Coal.

Description of Boilers 4—Single Ended.

Working Pressure 225 lbs.

Tested by hydraulic pressure to 388 lbs.

Date of test 30/10/35

No. of Certificate 647.

Area of Firegrate in each Boiler 86.8 sq. ft.

No. and Description of safety valves to each boiler Two—2 3/4" Cockburn's Improved High Lift

Area of each set of valves per boiler 9.2 sq. in.

Pressure to which they are adjusted 225 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 12"

Is oil fuel carried in the double bottom under boilers No.

Smallest distance between shell of boiler and tank top plating 2'-6"

Is the bottom of the boiler insulated Yes.

Largest internal dia. of boilers 17'-2 1/8" (206 1/8")

Length 12'-6"

Thickness 1 9/16"

Are the shell plates welded or flanged No.

Seams treble riveted

Shell plates: Material Steel

Double butt straps.

Description of riveting: circ. seams 15/8"

Percentage of strength of circ. end seams

Pitch of rivets 9 3/4"

Percentage of strength of longitudinal joint

Percentage of strength of circ. intermediate seam

Working pressure of shell by Rules 226.7 lbs.

Thickness of butt straps

Material Steel

Tensile strength 26 to 30 tons

Smallest outside diameter 45 3/4"

Length of plain part

Thickness of plates

Description of longitudinal joint Fire weld.

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

Working pressure of furnace by Rules 230 lbs.

End plates in steam space: Material Steel

Tensile strength 26 to 30 tons

Thickness 1 9/16"

Pitch of stays 20" x 15 3/8"

How are stays secured Screwed thro plates & Nuts outside

Working pressure by Rules 227 lbs.

End plates: Material Steel

Tensile strength 26 to 30 tons

Thickness 1 5/16"

Can pitch of stay tubes in nests

Pitch across wide water spaces 14" x 8 1/4"

Working pressure 229 lbs.

Orders to combustion chamber tops: Material Steel

Tensile strength 28 to 32 tons

Depth and thickness of girder

Centre 10 7/8" x 1 1/2"

Length as per Rule 36 15/32"

Distance apart 9 1/8"

No. and pitch of stays

each 3 @ 8 1/2"

Working pressure by Rules 226 lbs.

Combustion chamber plates: Material Steel

Tensile strength 26 to 30 tons

Thickness: Sides 27/32"

Back 23/32"

Top 27/32"

Bottom 27/32"

Pitch of stays to ditto: Sides 8 1/2" x 9 5/8"

Back 8 1/8" x 9 5/8"

Top 8 1/2" x 9 5/8"

Are stays fitted with nuts or riveted over with nuts

Working pressure by Rules 228 lbs.

Front plate at bottom: Material Steel

Tensile strength 26 to 30 tons

Thickness 1 5/16"

Lower back plate: Material Steel

Tensile strength 26 to 30 tons

Thickness 1"

Pitch of stays at wide water space 15 1/8" x 9 5/8" max.

Are stays fitted with nuts or riveted over with nuts.

Working Pressure 256 lbs.

Main stays: Material Steel

Tensile strength 28 to 32 tons

Diameter At body of stay 3 1/8" dia.

No. of threads per inch 9.

Area supported by each stay (20" x 15 1/2")—6.6.

Working pressure by Rules 242 lbs.

Screw stays: Material Steel

Tensile strength 26 to 30 tons

Diameter At turned off part 1 1/4" at bottom of thread

No. of threads per inch 9.

Area supported by each stay (9 5/8" x 8 1/2")—2 max. at sides.

Working pressure by Rules 227 lb Are the stays drilled at the outer ends No Margin stays: Diameter { At turned off part, 1.85" & 1.60" or Over threads 2" & 1 3/4"

No. of threads per inch 9 Area supported by each stay 11 1/2" x 9 5/8" - 2.7 Working pressure by Rules for 2" dia 228 lb.

Tubes: Material IRON External diameter { Plain 3" O/D. Thickness { 7.11 G. No. of threads per inch 9 Stay 3" O/D. 3/8" & 5/16"

Pitch of tubes (13 1/4" x 8 1/4") - 28 Working pressure by Rules 226 lb. Manhole compensation: Size of opening

shell plate none Section of compensating ring No. of rivets and diameter of rivet holes

Outer row rivet pitch at ends 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 rivets

stays Inner radius of crown Working pressure by Rules

How connected to shell Size of doubling plate under dome Diameter of rivet holes and of rivets in outer row in dome connection to shell

Type of Superheater "NORTH EASTERN" Smoke Tube Manufacturers of { Tubes Stewart & Lloyds Steel castings Forged Steel Headers - Frodingham Steel

Number of elements 320 Material of tubes Solid drawn steel Internal diameter and thickness of tubes 15 1/4" & 2.5" / m

Material of headers Forged Steel Tensile strength 26 to 30 tons Thickness 1 1/2" Can the superheater be shut off the boiler be worked separately Yes Is a safety valve fitted to every part of the superheater which can be shut off from the boiler Yes

Area of each safety valve 3.97 sq. ins. Are the safety valves fitted with easing gear Yes Working pressure as Rules 225 lb/sq. in. Pressure to which the safety valves are adjusted 225 lb/sq. in. Hydraulic test pressure 1500 lb/sq. in. Headers 675 lb/sq. in. and after assembly in place 450 lb/sq. in. Are drain cocks or valves fitted to free the superheater from water where necessary Yes

Have all the requirements of Sections 14 to 22 inclusive for boilers been complied with Yes

FOR SWAN, HUNT & CO. foregoing is a correct description, G. J. Lloyd 18/4/35

Dates of Survey { During progress of work in shops - - - See Insly 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

Is this Boiler a duplicate of a previous case No If so, state Vessel's name and Report No.

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

The Boilers have been built under Special Survey in accordance with the Rules and approved plan, and they have been satisfactorily fitted in the ship

The materials and workmanship are good

Survey Fee ... See Rpt 4. When applied for, 19

Travelling Expenses (if any) £ When received, 19

A. A. Watt
Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute See minute on J.E. Rpt

Assigned