

## REPORT ON BOILERS.

Received at London Office.

9 - MAR 1948

Date of writing Report. 19... When handed in at Local Office. 28 FEB 1948 Port of NEWCASTLE-ON-TYNE

No. in Reg. Book. Survey held at Newcastle on Tyne Date, First Survey 9<sup>TH</sup> SEPTEMBER, 1946 Last Survey 18<sup>TH</sup> FEBRUARY, 1948

36577 on the TURBOELEC S.S. HYALINA (Number of Visits 150) Gross 12267 Tons Net 7307

Master Built at Wallsend By whom built Swan Hunter &amp; Wigham Ltd No. 1752 When built 1948

Engines made at Rugby Walker &amp; Co By whom made Swan Hunter &amp; Wigham Ltd Engine No. 1848 When made 1948

Boilers made at Neptune Eng Works By whom made Swan Hunter &amp; Wigham Ltd Boiler No. 1848 When made 1948

Nominal Horse Power 171 Owners Anglo Saxon Petroleum Co Ltd Port belonging to London

## MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Colvilles Ltd (Letter for Record S)

Total Heating Surface of Boilers 2056 sq ft Is forced draught fitted Yes Coal or Oil fired Oil

No. and Description of Boilers One single ended multitubular Working Pressure 180 lb/sq in

Tested by hydraulic pressure to 320 lb/sq in Date of test 4-12-46 No. of Certificate 1232 Can each boiler be worked separately Yes

Area of Firegrate in each Boiler 6.59 sq ft No. and Description of safety valves to each boiler 2 Spring loaded Cockburn Improved

Area of each set of valves per boiler per Rule 6.59 sq ft as fitted 7.94 sq ft Pressure to which they are adjusted 180 lb/sq in 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 1-5" Is oil fuel carried in the double bottom under boilers Yes

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 12-9" Length 11-6" MEAN Shell plates: Material Steel Tensile strength 30-34 Tons/sq in

Thickness 63/64" Are the shell plates welded or flanged No Description of riveting: circ. seams end D.R.L.J. inter. Yes

long. seams T.R.D.B.S. Diameter of rivet holes in circ. seams 1 3/32" long. seams 1 1/16" Pitch of rivets 3.455" 7.5"

Percentage of strength of circ. end seams plate 69.34 rivets 42.35 Percentage of strength of circ. intermediate seam plate 85.83 rivets 86.31

Percentage of strength of longitudinal joint plate 85.83 rivets 86.31 combined 88.92 Working pressure of shell by Rules 180.5 lb/sq in

Thickness of butt straps outer 3/4" inner 1/2" No. and Description of Furnaces in each Boiler 3 Marison Type

Material Steel Tensile strength 26-30 Tons/sq in Smallest outside diameter 2-11 1/32"

Length of plain part top bottom Thickness of plates crown 29/64" bottom 1/4" Description of longitudinal joint

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

End plates in steam space: Material Steel Tensile strength 26-30 Tons/sq in Thickness 1 3/32" Pitch of stays 17 1/2" x 15"

How are stays secured Screwed into plates &amp; nuts outside only Working pressure by Rules 15 1/16"

Tube plates: Material front Steel back Steel Tensile strength 26-30 Tons/sq in Thickness 3/4" 13/16" 1/2"

Mean pitch of stay tubes in nests 9 3/8" Pitch across wide water spaces 13 1/2" Working pressure front back

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

at centre 9 1/4" x 1 1/4" Length as per Rule 2-8 15/32" Distance apart 9 1/2" No. and pitch of stays

in each 2 @ 10" Working pressure by Rules Combustion chamber plates: Material Steel

Tensile strength 26-30 Tons/sq in Thickness: Sides 3/4" Back 25/32" Top 3/4" Bottom 3/4"

Pitch of stays to ditto: Sides 9 1/4" x 7 1/2" Back 9 1/4" x 8 1/4" Top 10" x 9 1/2" Are stays fitted with nuts or riveted over REMAINDER OF C.C. STAYS RIVETED OVER INSIDE

Working pressure by Rules Front plate at bottom: Material Steel Tensile strength 26-30 Tons/sq in

Thickness 15" Lower back plate: Material Steel Tensile strength 26-30 Tons/sq in Thickness 29/32"

Pitch of stays at wide water space 14 3/4" x 8 1/4" Are stays fitted with nuts or riveted over Tube outside only

Working pressure Main stays: Material Steel Tensile strength 28-32 Tons/sq in

Diameter At body of stay 2 1/2" or 2 3/4" No. of threads per inch 6 Area supported by each stay

Working pressure by Rules Screw stays: Material Steel Tensile strength 26-30 Tons/sq in

Diameter At turned off part 1 1/2" or 1 3/4" No. of threads per inch 9 Area supported by each stay 9 1/4" x 8 1/4"

YES-NOW

If not, state whether, and when, one will be sent?

YES

Is a Report also sent on the Hull of the Ship?

(20.3.42.-Copyright Ink.)



Working pressure by Rules... ✓ Are the stays drilled at the outer ends... No. Margin stays: Diameter { At turned off part, or Over threads... 1 3/4" No. of threads per inch... 9 Area supported by each stay... 11 3/8" x 9 1/4" Working pressure by Rules... ✓ Tubes: Material Weldable Steel External diameter { Plain... 2 1/2" Stay... 2 1/2" Thickness { 3/8" - 1/4" No. of threads per inch... 9 Pitch of tubes... 3 3/4" x 3 3/4" Working pressure by Rules... ✓ Manhole compensation: Size of opening in shell plate... 16" x 12" Section of compensating ring... ✓ No. of rivets and diameter of rivet holes... ✓ Outer row rivet pitch at ends... ✓ Depth of flange if manhole flanged... 3 5/8" 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

Number of elements... ✓ Material of tubes... ✓ Manufacturers of { Tubes... Steel forgings... Steel castings... 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... ✓ forgings and 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... ✓

FOR SWAN, HUNTER & CO. LTD.

The foregoing is a correct description,

*R. L. Jones*

Manufacturer.

Dates of Survey while building { During progress of work in shops - - - During erection on board vessel - - -

Are the approved plans of boiler and superheater forwarded herewith... 4-8-43 (If not state date of approval.)

PLEASE SEE MACHINERY REPORT

Total No. of visits

150

Is this Boiler a duplicate of a previous case... Yes If so, state Vessel's name and Report No. HELICINA NWC 104096

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

This boiler has been built under special survey in accordance with rule requirements & approved plans. Materials & workmanship are good. Hydraulic test satisfactory. It has been efficiently installed & fixed in vessel, examined under steam the safety valves adjusted to the approved pressure.

Survey Fee ... .. £

Travelling Expenses (if any) £

When applied for... 19...

When received... 19...

*J. H. Matthews*

Engineer Surveyor to Lloyd's Register of Shipping.

FRI. 16 APR 1948

Committee's Minute

Assigned

*See F.E. mch. rpt.*



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