

REPORT ON BOILERS.

No. 104096

Received at London Office 3 DEC 1946
NEWCASTLE-ON-TYNE

Date of writing Report 19 When handed in at Local Office 27 NOV 1946 Port of
No. in Survey held at Newcastle on Tyne Date, First Survey 18th JUNE, 1944 Last Survey 26th OCTOBER, 1946
g. Book. (Number of Visits 154) Gross 12167.16
4931 on the TURBOELEC S.S. HELICINA Tons Net 7221.73
Built at Wallsend By whom built Swan Hunter & Wigham Richardson Ltd Yard No. 1711 When built 1946
Engines made at Rugby By whom made B.T.H. & Co. Ltd Engine No. R2526 When made 1946
Boilers made at Neptune Works, Walker By whom made Swan Hunter & Wigham Richardson Ltd Boiler No. 1808 When made 1946
Nominal Horse Power 137 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 20569 Is forced draught fitted Yes Coal or Oil fired Oil
No. and Description of Boilers One single ended multitubular Working Pressure 180 lb
Tested by hydraulic pressure to 320 lb Date of test 24-8-45 No. of Certificate 1172 Can each boiler be worked separately
Area of Firegrate in each Boiler No. and Description of safety valves to each boiler 2-Spring loaded Lockburn Improved
Area of each set of valves per boiler (per Rule 6.59 as fitted 7.94 Pressure to which they are adjusted 180 lb Are they fitted with easing gear
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 1'-5" 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
Largest internal dia. of boilers 12'-9" Length 11'-6" MEAN Shell plates: Material Steel Tensile strength 30-34 Tons
Thickness 63/64 Are the shell plates welded or flanged No Description of riveting: circ. seams end D.R.L.J. inter.
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 68.24 rivets 42.35 Percentage of strength of circ. intermediate seam plate rivets
Percentage of strength of longitudinal joint plate 85.83 rivets 86.31 combined 88.92
Thickness of butt straps outer 3/4 inner 1/8 No. and Description of Furnaces in each Boiler 3 Morrison Type
Material Steel Tensile strength 26-30 Tons Smallest outside diameter 2'-11 1/32
Length of plain part top bottom Thickness of plates crown bottom 29/64 Description of longitudinal joint
Dimensions of stiffening rings on furnace or c.c. bottom
End plates in steam space: Material Steel Tensile strength 26-30 Tons Thickness 1 3/32 Pitch of stays 17 1/2 x 15
How are stays secured Screwed into plates + nuts outside only
End plates: Material front Steel Tensile strength 26-30 Tons Thickness 15/16 back Steel Tensile strength 26-30 Tons Thickness 3/4 CENTRE 13/16 WING.
Can pitch of stay tubes in nests 9 3/8 Pitch across wide water spaces 13 1/2
Orders to combustion chamber tops: Material Steel Tensile strength 28-32 Tons Depth and thickness of girder
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
each 2 2 10 Combustion chamber plates: Material Steel
Tensile strength 26-30 Tons 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.
Front plate at bottom: Material Steel Tensile strength 26-30 Tons
Thickness 15/16 Lower back plate: Material Steel Tensile strength 26-30 Tons Thickness 29/32
Pitch of stays at wide water space 13 1/2 14 3/4 x 8 1/4 Are stays fitted with nuts or riveted over Nuts outside
In stays: Material Steel Tensile strength 28-32 Tons
Diameter At body of stay, or Over threads 2 1/2 x 2 3/4 No. of threads per inch 6
New stays: Material Steel Tensile strength 26-30 Tons
Diameter At turned off part, or Over threads 1 5/8 No. of threads per inch 9

Are the stays drilled at the outer ends No ✓ Margin stays: Diameter { At turned off part. } 1 3/4 ✓
 No. of threads per inch 9 ✓
 Tubes: Material Seamless Steel External diameter { Plain 2 1/2 ✓ Stay 2 1/2 ✓ } Thickness { 3/8 - 5/16 - 1/4 ✓ } No. of threads per inch 9 ✓
 Pitch of tubes 3 3/4" x 3 3/4" ✓ Manhole compensation: Size of opening in
 End shell plate 16 x 12 ✓ Section of compensating ring 3 5/8 ✓ 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 ✓ Thickness of crown ✓ No. and diameter of
 stays ✓ Inner radius of crown ✓
 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 forgings _____ 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 _____
 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 _____

The foregoing is a correct description,
SWAN, HUNTER, & WIGHAM, LTD. P.L. Lane Manufacturer.

Dates of Survey { During progress of work in shops - - - } SEE MACHINERY REPORT Are the approved plans of boiler and superheater forwarded herewith 4-8-43
 while building { During erection on board vessel - - - } (If not state date of approval.)
 Total No. of visits ✓

Is this Boiler a duplicate of a previous case Yes ✓ If so, state Vessel's name and Report No. OLNA 102881

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 & its safety valves adjusted to the approved pressure.

Survey Fee ... £ See Machinery Report When applied for, 19
 Travelling Expenses (if any) £ See Machinery Report When received, 19

J. H. Matthews
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI 20 DEC 1948

Assigned See F.E. machy. rpt.



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