

REPORT ON BOILERS.

Received at London Office 10 MAR 1944

Date of writing Report 19 When handed in at Local Office 19 Port of Glasgow

No. in Survey held at Glasgow & Greenock Date, First Survey 6. 4. 43 Last Survey 18. 2. 1944
 Reg. Book. on the S.S. "GEOLOGIST" (Number of Visits 63) Gross Tons 6201.95 Net Tons 3662.78

Built at Port Glasgow By whom built Messrs Lithgows Ltd. Yard No. 989 When built 1944
 Engines made at Glasgow By whom made David Rowan & Co. Ltd Engine No. 1132 When made 1944
 Boilers made at -do- By whom made -do- Boiler No. 1132 When made 1944
 Nominal Horse Power 524 Owners Charante S.S. Co. Ltd Port belonging to Liverpool

MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Colvilles Ltd. (Letter for Record (+))

Total Heating Surface of Boilers 1242 sq ft Is forced draught fitted No Coal or Oil fired Coal

No. and Description of Boilers One single ended. Working Pressure 120 LBS/sq"

Tested by hydraulic pressure to 230 LBS/sq" Date of test 6-12-43 No. of Certificate 21588 Can each boiler be worked separately

Area of Firegrate in each Boiler 35 sq ft No. and Description of safety valves to each boiler 2-2 "Improved high lift"
 Area of each set of valves per boiler (per Rule 5.75 sq" as fitted 6.28 sq") Pressure to which they are adjusted 120 LBS/sq" 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 Is oil fuel carried in the double bottom under boilers No

Smallest distance between shell of boiler and tank top plating Boiler on Upper Deck Is the bottom of the boiler insulated Yes

Largest internal dia. of boilers 12'-6" Length 10'-6" Shell plates: Material S.M. Steel Tensile strength 28-32 Tons
 Thickness 23/32" Are the shell plates welded or flanged No Description of riveting: circ. seams (end D.R. inter.)
 long. seams T.R.D.B.S. Diameter of rivet holes in (circ. seams 13/16" long. seams 7/8") Pitch of rivets (circ. seams 2.367" long. seams 5.554")

Percentage of strength of circ. end seams (plate 65.7 rivets 50.2) Percentage of strength of circ. intermediate seam (plate rivets)

Percentage of strength of longitudinal joint (plate 84.24 rivets 92.5 combined 91.6)

Thickness of butt straps (outer 9/16" inner 11/16") No. and Description of Furnaces in each Boiler Two plain.
 Material S.M. Steel Tensile strength 26-30 Tons Smallest outside diameter 3'-4 1/4"
 Length of plain part (top 6'-1 3/8" bottom 6'-2 9/16") Thickness of plates (crown 5/8" bottom 5/8") Description of longitudinal joint Welded
 Dimensions of stiffening rings on furnace or c.c. bottom

End plates in steam space: Material S.M. Steel Tensile strength 26-30 Tons Thickness 1 1/16" Pitch of stays 17 1/4" x 23 3/4"
 How are stays secured D.N.

Tube plates: Material (front S.M. Steel back S.M. Steel) Tensile strength 26-30 Tons Thickness (front 13/16" back 23/32")
 Mean pitch of stay tubes in nests 12 5/16" Pitch across wide water spaces 14 1/2"

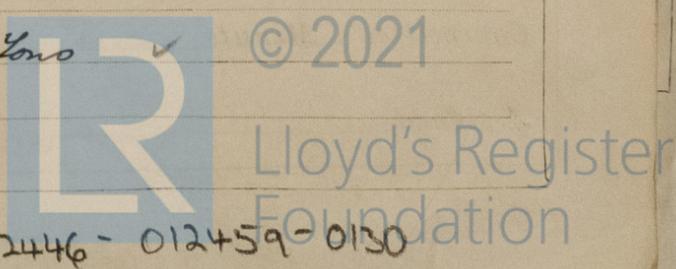
Girders to combustion chamber tops: Material S.M. Steel Tensile strength 28-32 Tons Depth and thickness of girder at centre 2 @ 7 1/4" x 5" Length as per Rule 2'-6 23/32" Distance apart 9 3/8" No. and pitch of stays in each 2 @ 9 3/4"

Combustion chamber plates: Material S.M. Steel
 Tensile strength 26-30 Tons Thickness: Sides 19/32" Back 9/16" Top 19/32" Bottom 15/16"
 Pitch of stays to ditto: Sides 9 1/4" x 10 1/16" Back 9" x 9" Top 9 7/8" x 9 3/4" Are stays fitted with nuts or riveted over Nuts

Front plate at bottom: Material S.M. Steel Tensile strength 26-30 Tons
 Thickness 15/16" Lower back plate: Material S.M. Steel Tensile strength 26-30 Tons Thickness 5/8"
 Pitch of stays at wide water space 13" Are stays fitted with nuts or riveted over Nuts

Main stays: Material Steel Tensile strength 28-32 Tons
 Diameter (At body of stay, 2 1/2" or Over threads) No. of threads per inch 6

Screw stays: Material Iron Tensile strength 2 1/2 Tons
 Diameter (At turned off part, 1 3/8" or Over threads) No. of threads per inch 9



Are the stays drilled at the outer ends no ✓ Margin stays: Diameter { At turned off part, ✓
or Over threads 1 1/2", 1 5/8" ✓

No. of threads per inch 9 ✓

Tubes: Material Iron ✓ External diameter { Plain 3 1/2" ✓
Stay 3 1/2" ✓ Thickness { 8 N. G. ✓
1/4" x 5/16" ✓ No. of threads per inch 9 ✓

Pitch of tubes 4 7/8" x 4 7/8" ✓ Manhole compensation: Size of opening in
shell plate 19" x 15" ✓ Section of compensating ring 7" x 3/32" ✓ No. of rivets and diameter of rivet holes 38 @ 1 5/16" ✓

Outer row rivet pitch at ends 5 15/16" ✓ 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 ✓ 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 None 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 yes ✓

The foregoing is a correct description,
For David Rowan & Co. Ltd. Manufacturer.
Arch. H. Ferguson

Dates of Survey { During progress of work in shops -- } Are the approved plans of boiler and superheater forwarded herewith yes ✓
(If not state date of approval.)
while building { During erection on board vessel --- } See attached machy report Total No. of visits ✓

Is this Boiler a duplicate of a previous case yes If so, state Vessel's name and Report No. "Prospector" Glasgow Report No. 67793

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) This boiler has been built under special survey in accordance with the Rules and approved plans, and the materials and workmanship are good. It has been satisfactorily installed in the vessel and the safety valves have been adjusted to the working pressure.

Survey Fee £ See Machy Rept. When applied for, 19
Travelling Expenses (if any) £ See Machy Rept. : : When received, 19

Jas. Stevenson & M. Caldwell
Engineer Surveyors to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 7 MAR 1944

Assigned

