

# REPORT ON BOILERS.

No. 63260

Received at London Office JAN -2 1941

Date of writing Report 19 When handed in at Local Office 30:12: 1940 Port of GLASGOW

No. in Survey held at Glasgow Date, First Survey 15:2:40 Last Survey 21st Dec. 1940

90811 on the S/S "TRADER" (Number of Visits 74) Tons Gross 6000 Net

Built at Glasgow By whom built Chas. Connell & Co. Ltd. Yard No. 430 When built 1940

Engines made at -do- By whom made David Rowan & Co. Ltd. Engine No. 1052 When made 1940

Boilers made at -do- By whom made -do- Boiler No. 1052 When made 1940

Normal Horse Power 83 Owners Charon SS. Co. Ltd. Port belonging to Liverpool

## MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel The Steel Company of Scotland, 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 lb.

Tested by hydraulic pressure to 230 lb. Date of test 2-10-40 No. of Certificate 20646 Can each boiler be worked separately -

Area of Firegrate in each Boiler 35 sq ft No. and Description of safety valves to each boiler 1-2 3/4" draft spring

Area of each set of valves per boiler {per Rule 11.50" as fitted 11.860" Pressure to which they are adjusted 120 lb. 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 fitted on upper deck Is the bottom of the boiler insulated Yes

Largest internal dia. of boilers 12'-6" Length 10'-6" Shell plates: Material steel Tensile strength 28/32 tons

Thickness 23/32" Are the shell plates welded or flanged No Description of riveting: circ. seams {end draft inter. 2-36 7/8" Pitch of rivets {5-55 1/4"

Long. seams DBS TR Diameter of rivet holes in {circ. seams 13/16" long. seams 7/8" 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 2 Plain

Material steel Tensile strength 26/30 tons Smallest outside diameter 3'-7 1/4"

Length of plain part {top bottom Thickness of plates {crown 5/8" bottom Description of longitudinal joint welded

Dimensions of stiffening rings on furnace or c.e. bottom

End plates in steam space: Material 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 steel back Tensile strength {26/30 tons Thickness {13/16" 23/32"

Mean pitch of stay tubes in nests 12 3/16" Pitch across wide water spaces 14 1/2"

Girders to combustion chamber tops: Material steel Tensile strength 28/32 tons Depth and thickness of girder

at centre 2 @ 7 1/4" x 5/8" Length as per Rule 2'-6 23/32" Distance apart 9 7/8" No. and pitch of stays

in each 2 @ 9 3/4" Combustion chamber plates: Material 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 8 1/2" x 11" Max. Back 9" x 9" Top 9 3/4" x 9 7/8" Are stays fitted with nuts or riveted over Nuts

Front plate at bottom: Material steel Tensile strength 26/30 tons

Thickness 13/16" Lower back plate: Material 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, or Over threads 2 1/2" No. of threads per inch 6

Screw stays: Material Iron Tensile strength 2 1/2 tons

Diameter {At turned off part, or Over threads 1 3/8" No. of threads per inch 9



Are the stays drilled at the outer ends No Margin stays: Diameter <sup>At turned off part,</sup> 1 1/2"  
 or <sup>Over threads</sup> 1 1/2"  
 No. of threads per inch 9  
 Tubes: Material Iron External diameter <sup>Plain</sup> 3 1/2" <sup>Stay</sup> 3 1/2" Thickness 8 W.G. 1/4" + 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 15" x 19" Section of compensating ring 7" x 2 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 None  
 Tensile strength \_\_\_\_\_ Thickness of shell \_\_\_\_\_ Description of longitudinal joint \_\_\_\_\_  
 Diameter of rivet holes \_\_\_\_\_ Pitch of rivets \_\_\_\_\_ Percentage of strength of joint <sup>Plate</sup> \_\_\_\_\_ <sup>Rivets</sup> \_\_\_\_\_  
 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 <sup>Tubes</sup> \_\_\_\_\_ <sup>Steel forgings</sup> \_\_\_\_\_ <sup>Steel castings</sup> \_\_\_\_\_  
 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 casing 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. N. Grierson

Dates of Survey <sup>During progress of work in shops - -</sup> \_\_\_\_\_ Are the approved plans of boiler and superheater forwarded herewith Yes  
 while <sup>During erection on board vessel - - -</sup> \_\_\_\_\_ (If not state date of approval.)  
 building \_\_\_\_\_  
**SEE ACCOMPANYING MACHINERY REPORT.**  
 Total No. of visits \_\_\_\_\_

Is this Boiler a duplicate of a previous case Yes If so, state Vessel's name and Report No. "CUSTODIAH" GLS. R. 48174

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 material and workmanship are good. It has been satisfactorily installed in the vessel and the safety valves have been adjusted to the working pressure.

Rob  
30/12/40

Survey Fee ... .. £ \_\_\_\_\_ : When applied for, \_\_\_\_\_ 19  
 Travelling Expenses (if any) See mach. report. : \_\_\_\_\_ : When received, \_\_\_\_\_ 19

M. J. Brown  
 Engineer Secretary to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 31 DEC 1940

Assigned **SEE ACCOMPANYING MACHINERY REPORT.**

