

## REPORT ON BOILERS.

No. 91672

Received at London Office 23 AUG 1934

Date of writing Report 21<sup>st</sup> Aug. 1934 When handed in at Local Office 21<sup>st</sup> Aug. 1934 Port of **NEWCASTLE-ON-TYNE**  
No. in Survey held at **Newcastle-on-Tyne** Date, First Survey **7<sup>th</sup> Feb** Last Survey **16<sup>th</sup> Aug** 19**34**  
Reg. Book. on the **Donkey Boiler No. 9705** (Number of Visits **14**) Tons { Gross  
Master Built at **Monfalcone** By whom built **Ant. Riuniti dell'Adriatico** No. When built  
Engines made at By whom made Engine No. When made  
Boilers made at **Newcastle-on-Tyne** By whom made **Row. Hawthorn, Leslie & Co. Ltd.** Boiler No. **9705** When made **1934**  
Nominal Horse Power **154** Owners **Anglo-Saxon Petroleum Co. Ltd.** Port belonging to

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

Manufacturers of Steel **The Steel Company of Scotland Ltd.** (Letter for Record **S.**)  
Total Heating Surface of Boilers **2317** Is forced draught fitted **-** Coal or Oil fired **Oil**  
No. and Description of Boilers **One Single Ended** Working Pressure **180 lbs./sq.**  
Tested by hydraulic pressure to **320 lbs./sq.** Date of test **30.5.34** No. of Certificate **618** Can each boiler be worked separately **-**  
Area of Firegrate in each Boiler **-** No. and Description of safety valves to each boiler **2-3 1/4" dia. direct spring loaded**  
Area of each set of valves per boiler { per Rule **14.82** as fitted **16.58** Pressure to which they are adjusted **-** 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 **-** Is oil fuel carried in the double bottom under boilers **-**  
Smallest distance between shell of boiler and tank top plating **-** Is the bottom of the boiler insulated **-**  
Largest internal dia. of boilers **14'-3 5/8"** Length **11'-6"** Shell plates: Material **Steel** Tensile strength **28/32 tons/sq.**  
Thickness **1 3/16"** Are the shell plates welded or flanged **No** Description of riveting: circ. seams { end **DR. lap** inter. **-**  
Long. seams **T.R.D.B.S.** Diameter of rivet holes in { circ. seams **1 1/4"** Pitch of rivets { **3 1/2"** long. seams **1 1/4"** **8 3/4"**  
Percentage of strength of circ. end seams { plate **64.25** rivets **48.5** Percentage of strength of circ. intermediate seam { plate **-** rivets **-**  
Percentage of strength of longitudinal joint { plate **85.7** rivets **91** combined **89.7** Working pressure of shell by Rules **183 lbs./sq.**  
Thickness of butt straps { outer **3 3/8"** inner **1 3/2"** No. and Description of Furnaces in each Boiler **3 Horizon**  
Material **Steel** Tensile strength **26/30 tons/sq.** Smallest outside diameter **3'-7 3/8"**  
Length of plain part { top **-** bottom **-** Thickness of plates { crown **2"** bottom **1 1/16"** Description of longitudinal joint **weld**  
Dimensions of stiffening rings on furnace or c.c. bottom **None** Working pressure of furnace by Rules **189 lbs./sq.**  
End plates in steam space: Material **Steel** Tensile strength **26/30 tons/sq.** Thickness **1 7/32"** Pitch of stays **17 3/4" x 21" mean**  
How are stays secured **D. nuts** Working pressure by Rules **183 lbs./sq.**  
Tube plates: Material { front **Steel** back **Steel** Tensile strength { **26/30 tons/sq.** Thickness { **15/16"** **13/16"**  
Lean pitch of stay tubes in nests **9"** Pitch across wide water spaces **13 3/4"** Working pressure { front **242 lbs./sq.** back **293 lbs./sq.**  
Girders to combustion chamber tops: Material **Steel** Tensile strength **28/32 tons/sq.** Depth and thickness of girder  
at centre **10" x 2 @ 3/4"** Length as per Rule **2'-10 31/64"** Distance apart **10"** No. and pitch of stays  
each **3 @ 8"** Working pressure by Rules **194 lbs./sq.** Combustion chamber plates: Material **Steel**  
Tensile strength **26/30 tons/sq.** Thickness: Sides **45/64"** Back **45/64"** Top **45/64"** Bottom **7/8"**  
Pitch of stays to ditto: Sides **8" x 8"** Back **8" x 8"** Top **8" x 10"** Are stays fitted with nuts or riveted over **Riveted**  
Working pressure by Rules **180 lbs./sq.** Front plate at bottom: Material **Steel** Tensile strength **26/30 tons/sq.**  
Thickness **15/16"** Lower back plate: Material **Steel** Tensile strength **26/30 tons/sq.** Thickness **27/32"**  
Pitch of stays at wide water space **15" x 8"** Are stays fitted with nuts or riveted over **Nuts**  
Working Pressure **200 lbs./sq.** Main stays: Material **Steel** Tensile strength **28/32 tons/sq.**  
Diameter { At body of stay **3"** No. of threads per inch **6** Area supported by each stay **372.75 sq.**  
Over threads **-** Working pressure by Rules **181 lbs./sq.** Screw stays: Material **Steel** Tensile strength **26/30 tons/sq.**  
Diameter { At turned off part **-** No. of threads per inch **9** Area supported by each stay **64 sq. + 80 sq.**  
Over threads **1 1/2" x 1 5/8"**

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Working pressure by Rules 196 & 190 <sup>4 1/2</sup> Are the stays drilled at the outer ends 20 Margin stays: Diameter { At turned off part, - or Over threads 1 3/4 " No. of threads per inch 9 Area supported by each stay 92 5/8 Working pressure by Rules 197 <sup>4 1/2</sup> Tubes: Material Iron External diameter { Plain 2 3/4 " Stay 2 3/4 " Thickness { 9 W.G. <sup>3/8</sup> " <sup>5/16</sup> " No. of threads per inch 9 Pitch of tubes 4" x 3 7/8 Working pressure by Rules 215 <sup>4 1/2</sup> Manhole compensation: Size of opening 21" x 17" Section of compensating ring 21" x 1 3/16 " No. of rivets and diameter of rivet holes 40 - 1 1/4 " Outer row rivet pitch at ends 8 3/4 " Depth of flange if manhole flanged Comp. Ring flanged 3 1/2 " Steam Dome: Material Rose 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 None Manufacturers of { Tubes - 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 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 Rules - Pressure to which the safety valves are adjusted - Hydraulic test pressure - tubes -, 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 -

30 MAY 1934  
The foregoing is a correct description,  
R. & W. HAWTHORN, LEBROE & CO. LIMITED  
R. B. Johnston  
DIRECTOR

Dates of Survey { During progress of work in shops - - Feb. 7. 12. 20. 28. Mar. 13. 21. Apr. 3. 10. 16. 23. May 1. 30. Aug. 8. 16. Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.) Total No. of visits 14

Is this Boiler a duplicate of a previous case 20 If so, state Vessel's name and Report No. -

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) This boiler has been constructed under special survey in accordance with the Rules and approved plan; the materials and workmanship are good. The boiler is to be forwarded to Monfalcone for instalment in the vessel.

Survey Fee ... £ 15 : 8 : 0 When applied for, 19  
Travelling Expenses (if any) £ - When received, 25.8.34  
A. B. Forster.  
Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute TUE. 4 JUN 1935  
Assigned See Tri. J.E. 10038