

REPORT ON BOILERS.

DONKEY

No. 95349.

Received at London Office

AUG 27 1937

of writing Report 16/8/37 10 When handed in at Local Office 16/8/37 10 Port of **NEWCASTLE-ON-TYNE**

in Survey held at **Newcastle on Tyne** Date, First Survey **18 Feb 37** Last Survey **13 Aug 1937**

on the **Steel Motor Tanker "YENANG YAUNG"** (Number of Visits _____) Gross **5447** Tons Net **3031**

Built at **Newcastle on Tyne** By whom built **Swan, Hunter & Wigham Richardson Ltd** Yard No. **1531** When built **1937**

Engines made at **Sunderland** By whom made **Wm Daxford & Sons** Engine No. **198** When made **1937**

Boilers made at **Newcastle on Tyne** By whom made **Swan, Hunter & Wigham Richardson Ltd** Boiler No. **1538** When made **1937**

Indicated Horse Power $\frac{2595}{15} = 173$. Owners **Burma Oil Company** Port belonging to **RANGOON NEWCASTLE**

MULTITUBULAR BOILERS - ~~MAIN, AUXILIARY, OR~~ DONKEY. **WASTE EXH. GAS and/or OIL FIRED.**

Manufacturers of Steel **Steel Coy. of Scotland & Furnace Plates by Parkhead I. & S. Co. Rotherham** (Letter for Record **S.**)

Total Heating Surface of Boilers **2595 sq. ft.** Is forced draught fitted **Yes** Coal or Oil fired **Oil fired for WASTE EXH. GAS.**

Type and Description of Boilers **One Single Ended "Scotch" Multitubular.** Working Pressure **150 lbs/sq. in.**

Tested by hydraulic pressure to **275 lbs.** Date of test **18/5/37** No. of Certificate **716**. Can each boiler be worked separately **Yes**

No. of Firegrate in each Boiler **Oil fired** No. and Description of safety valves to each boiler **Two of 2 3/4" Cockburn's Improved High-Lift Spring Loaded**

Weight of each set of valves per boiler {per Rule **9.85** as fitted **11.84**. Pressure to which they are adjusted **150 lbs.** Are they fitted with easing gear **Yes**

Use of donkey boilers, state whether steam from main boilers can enter the donkey boiler **No main Boilers.**

Clearance between boilers or uptakes and bunkers or woodwork **2'-6"** Is oil fuel carried in the double bottom under boilers **Yes**

Clearance between shell of boiler and tank top plating **2'-6"** Is the bottom of the boiler insulated **Yes**

Smallest internal dia. of boilers **13'-4 1/2"** Length **11'-6"** Shell plates: Material **Steel** Tensile strength **30/34 tons**

Thickness **7/8"** Are the shell plates welded or flanged **No** Description of riveting: circ. seams {end **DR Lap.** inter. **none.**

Seams **T.R. Dble Butt straps** Diameter of rivet holes in {circ. seams **1"** long. seams **15/16"** Pitch of rivets {**3.24"** **6.625"**

Percentage of strength of circ. end seams {plate **69.18** rivets **42.41** Percentage of strength of circ. intermediate seam {plate **none.** rivets **none.**

Percentage of strength of longitudinal joint {plate **85.84** rivets **85.65** combined **88.80** Working pressure of shell by Rules **151 lbs.**

Thickness of butt straps {outer **2 1/32"** inner **25/32"** No. and Description of Furnaces in each Boiler **Two at Wings - Deighton corrugated. Plain tube at centre back for access.**

Material **Steel** Tensile strength **26/30 tons** Smallest outside diameter **37 3/16"**

Length of plain part {top **2'-4" c.c. both.** bottom **2'-4" c.c. both.** Thickness of plates {crown **13/32"** bottom **5/8 c.c. both.** Description of longitudinal joint **Furnace, fire welded.**

Dimensions of stiffening rings on furnace or c.c. bottom **None** Working pressure of furnace by Rules **155 lbs.**

Stays in steam space: Material **Steel** Tensile strength **26/30 tons** Thickness **1 1/32"** Pitch of stays **18" x 18"**

Are stays secured **Dble nuts & washers.** Working pressure by Rules **151.5 lbs.**

End plates: Material {front **Steel.** back **Steel.** Tensile strength {**26/30 tons** Thickness {**7/8"** **5/8"**

Clearance between stay tubes in nests **9.375"** Pitch across wide water spaces **13 1/2" x 7 3/8"** Working pressure {front **159 lbs.** back **156 lbs.**

Stays to combustion chamber tops: Material **Steel** Tensile strength **28/32 tons** Depth and thickness of girder

Length **7 7/8" x 1 1/4"** Length as per Rule **30 21/32"** Distance apart **8 3/4" (max. at centre)** No. and pitch of stays

Working pressure by Rules **151 lbs.** Combustion chamber plates: Material **Steel**

Tensile strength **26/30 tons** Thickness: Sides **5/8"** Back **Cr 3/4" Wings 23/32" Top 5/8" Bottom 5/8"**

Thickness of stays to ditto: Sides **9 1/2" x 9 3/8"** Back **9" x 9" c.c. c.c.** Top **9 3/8" x 8 3/4"** Are stays fitted with nuts or riveted over **are riveted both ends. Remainder of back stays are riveted under c.c. & nuts outside.**

Working pressure by Rules **152 lbs.** Front plate at bottom: Material **Steel** Tensile strength **26/30 tons**

Thickness **7/8"** Lower back plate: Material **Steel** Tensile strength **26/30 tons** Thickness **3/4"**

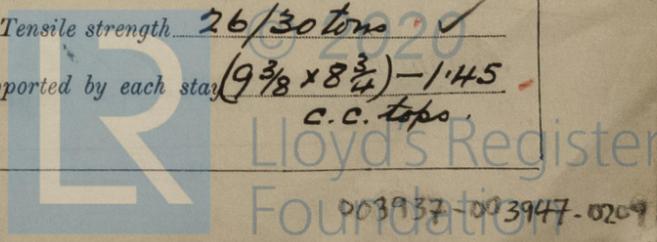
Clearance between stays at wide water space **13 1/2" x 9"** Are stays fitted with nuts or riveted over **nuts**

Working Pressure **172 lbs** Main stays: Material **Steel** Tensile strength **28/32 tons**

Working pressure by Rules **155 lbs** Screw stays: Material **Steel** Tensile strength **26/30 tons**

Working pressure by Rules **155 lbs** No. of threads per inch **6** Area supported by each stay **(18x18) - 4.57 sq. in.**

Working pressure by Rules **155 lbs** No. of threads per inch **9** Area supported by each stay **(9 3/8 x 8 3/4) - 1.45 sq. in. c.c. tops**



Working pressure by Rules 155 lb Are the stays drilled at the outer ends No Margin stays: Diameter 1 7/8"
 No. of threads per inch 9 Area supported by each stay (1 1/4" x 9") - 1.73 sq ft Working pressure by Rules 152 lb
 Tubes: Material IRON External diameter 2 1/2" Thickness 10 WG. No. of threads per inch 9
 Pitch of tubes 3 3/4" x 3 3/4" Working pressure by Rules 229 lb (min at sides) Manhole compensation: Size of opening
 shell plate 20 x 16" Section of compensating ring 8 1/4" x 7/8" x 2 No. of rivets and diameter of rivet holes 32 @ 1 1/4"
 Outer row rivet pitch at ends 8 3/4" Depth of flange if manhole flanged 2 1/2" 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 {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 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 _____, 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,
 CHAS. HUNTER & CHARLTON, LTD. *M. J. Jones* Manufacturer

Dates of Survey {During progress of work in shops - - - } Please see Machinery Report. Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.)
 {During erection on board vessel - - - } Total No. of visits ✓

Is this Boiler a duplicate of a previous case Yes If so, state Vessel's name and Report No. British Fame No. 94124 etc.

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)
The Boiler has been built under Special Survey in accordance with the Rules & approved plans, and the materials & workmanship are good
The Boiler is installed on top of the O.F. double bottom tank in stokehold forward of Engine Room. and is fitted for burning oil fuel, and for waste exhaust from the main engine. The safety valves were adjusted under steam & stated overleaf, and the accumulation test was satisfactory

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

A. Watt. & W. Nicholson.
 Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute FRI 3 SEP 1937

Assigned See No. 95379

