

# REPORT ON BOILERS.

No. 81921

Date of writing Report **24 FEB 1921** When handed in at Local Office **24 FEB 1921** Received at London Office **SAT. 26 FEB. 1921**

No. in Survey held at **LIVERPOOL** Port of **LIVERPOOL**

Reg. Book. **Men<sup>rs</sup> Abdala & Mitchell's Vessel No 414.** Date, First Survey **Decr 9<sup>th</sup> 1919.** Last Survey **Apr 21<sup>st</sup> 1920.**

Master **Men<sup>rs</sup> Abdala & Mitchell** Built at **Queensferry Presby.** By whom built **J. Abdala & Mitchell**

Engines made at **By whom made** When built

Boilers made at **By whom made** When made

Registered Horse Power **By whom made** When made **1921**

Owners **Cammell Laird & Co Ltd** Port belonging to

**MULTITUBULAR BOILERS—MAIN, AUXILIARY OR DONKEY.**—Manufacturers of Steel **J. Spenser & Sons Ltd**  
 (Letter for record **S**) **Total Heating Surface of Boilers 1226 sq ft** Is forced draft fitted **No. and Description of**

**Boilers One, Cylindrical, Multitubular (S.B)** Working Pressure **140 lbs** Tested by hydraulic pressure to **280 lbs** Date of test **1-4-20.**

No. of Certificate **2118** Can each boiler be worked separately **Area of fire grate in each boiler 38.6 sq ft** No. and Description of

safety valves to each boiler **Two, Spring loaded.** Area of each valve **4.91 sq ft** Pressure to which they are adjusted

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 **Inside** Mean dia. of boilers **12'-0"** Length **10'-0"**

Material of shell plates **Steel** Thickness **13/16"** Range of tensile strength **28-32 tons** Are the shell plates welded or flanged **No**

Descrip. of riveting: cir. seams **D.R. Lap** long. seams **T.R. Double Strap** Diameter of rivet holes in long. seams **15/16"** Pitch of rivets **6 1/4"**

Lap of plates or width of butt straps **13 3/4"** Per centages of strength of longitudinal joint rivets **101%** Working pressure of shell by rules **143 lbs** Size of manhole in shell **16" x 12"** Size of compensating ring **Mc Neil** plate **85%**

**boiler 2, Morrison's, with main** Material **Steel** Outside diameter **5'-10"** Length of plain part **top } 15"** Thickness of plates **bottom } 32"**

Description of longitudinal joint **Weld** No. of strengthening rings **Working pressure of furnace by the rules 150 lbs** Combustion chamber

plates: Material **Steel** Thickness: Sides **9/16"** Back **9/16"** Top **9/16"** Bottom **3/4"** Pitch of stays to ditto: Sides **9" x 8"** Back **8 1/2" x 8 1/2"**

Top **9" x 8"** If stays are fitted with nuts or riveted heads **Nuts** Working pressure by rules **151 lbs** Material of stays **Steel** Area at smallest part **1.45 sq ft** Area supported by each stay **72 sq ft** Working pressure by rules **161 lbs** End plates in steam space: Material **Steel** Thickness **15/16"**

Pitch of stays **17" x 17"** How are stays secured **Double Nut Washers** Working pressure by rules **144 lbs** Material of stays **Steel** Area at smallest part **4.11 sq ft**

Area supported by each stay **280 sq ft** Working pressure by rules **148 lbs** Material of Front plates at bottom **Steel** Thickness **29/32"** Material of Lower back plate **Steel** Thickness **25/32"** Greatest pitch of stays **14 1/2" x 8 1/2"** Working pressure of plate by rules **149 lbs** Diameter of tubes **3 1/4" x 1"**

Pitch of tubes **4 7/16" x 4 7/16"** Material of tube plates **Steel** Thickness: Front **29/32"** Back **3/4"** Mean pitch of stays **11 3/32"** Pitch across wide water spaces **14 1/4"** Working pressures by rules **145 lbs** Girders to Chamber tops: Material **Steel** Depth and thickness of girder at centre **6 1/8" x 1 3/16"** Length as per rule **25** Distance apart **8"** Number and pitch of Stays in each **2 rows 9"**

Working pressure by rules **148 lbs** Steam dome: description of joint to shell **✓** % of strength of joint **✓**

Diameter **✓** Thickness of shell plates **✓** Material **✓** Description of longitudinal joint **✓** Diam. of rivet holes **✓**

Pitch of rivets **✓** Working pressure of shell by rules **✓** Crown plates **✓** Thickness **✓** How stayed **✓**

**SUPERHEATER.** Type **✓** Date of Approval of Plan **✓** Tested by Hydraulic Pressure to **✓**

Date of Test **✓** Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler **✓**

Diameter of Safety Valve **✓** Pressure to which each is adjusted **✓** Is Easing Gear fitted **✓**

The foregoing is a correct description,  
**CAMMELL LAIRD AND COMPANY LIMITED**  
**J. W. Laird** Manufacturer.

Dates of Survey while building: During progress of work in shops - **1919. Dec 9, 17, 30. Feb 21.** 1920. **Jan 21, 27. Feb 2, 11, 24, 25. Mar 4, 10, 17, 18, 24.**

Is the approved plan of boiler forwarded here with **Yes**

Total No. of visits **16.**

**GENERAL REMARKS** (State quality of workmanship, opinions as to class, &c.) **This Boiler has now been built under Special Survey, and in accordance with the approved plan, & Secretary's letter (E) dated 3<sup>rd</sup> Decr 1919. The workmanship & materials are of good quality, and when tested to twice working pressure was found satisfactory in every respect.**

Survey Fee ... £ **8 : 4** :  
 Travelling Expenses (if any) £ : :  
 When applied for, **24 FEB 1921**  
 When received, **5.4.21**

**John Dykes & John G. Gifford**  
 Engineers Surveyors to Lloyd's Register of Shipping.

Committee's Minute **LIVERPOOL 25 FEB 1921**

Assigned **Transmit to London**

Lloyd's Register Foundation

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