

## REPORT ON BOILERS.

No. 30520

10 FEB 1931

Received at London Office

-2 DEC 1930

Date of writing Report

1932

When handed in at Local Office

1 DEC. 1930

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

Reg. Book.

Date, First Survey **12 Sep.**Last Survey **28 Nov 1930**

on the

**M/V. "Aguila"**(Number of Visits **10**)Gross  
Tons  
Net

Master

Built at **LEITH**By whom built **H. ROBB & CO. LD.**Yard No. **181** When built

Engines made at

By whom made

Engine No. When made

Boilers made at **SUNDERLAND**.By whom made **MAC COLL & POLLOCK LD.**Boiler No. **679** When made **1930**

Nominal Horse Power

Owners

Port belonging to

MULTITUBULAR BOILERS ~~MAIN~~, ~~AUXILIARY~~, OR DONKEY.Manufacturers of Steel **DAVID COLVILLE & SONS. LD. GLASGOW.**(Letter for Record **(S)**)Total Heating Surface of Boilers **716.98 717**Is forced draught fitted **No.**Coal or Oil fired **OIL**No. and Description of Boilers **1. S.B.**Working Pressure **120 lbs.**Tested by hydraulic pressure to **230 lbs.** Date of test **20-10-30** No. of Certificate **4126**

Can each boiler be worked separately

Area of Firegrate in each Boiler

No. and Description of safety valves to each boiler **2 SPRING LOADED. HIGH LIFT (COCKBURN MAKE).**

Area of each set of valves per boiler

(per Rule **3.98 0"**)Secretary's letter "E" dated **19-11-30**(as fitted **3.52 0"**)Pressure to which they are adjusted **120 lbs.** 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 **6'-0"**

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 **8'-10 1/2"**Length **10'-6"**Shell plates: Material **STEEL**Tensile strength **29/33 Tm.**Thickness **19/32"**Are the shell plates welded or flanged **No.**

Description of riveting: circ. seams

Long. seams **D.R. D.B.S.**

Diameter of rivet holes in

circ. seams **7/8"**long. seams **7/8"**

Pitch of rivets

**3 3/4"**

Percentage of strength of circ. end seams

plate **73.07**rivets **49.2**

Percentage of strength of circ. intermediate seam

Percentage of strength of longitudinal joint

plate **76.09**rivets **82.2**combined **93.2**Working pressure of shell by Rules **127.5 lbs.**

Thickness of butt straps

outer **9/16"**inner **7/16"**No. and Description of Furnaces in each Boiler **2 CORRUGATED. DEIGHTON SECTION.**Material **STEEL**Tensile strength **26/30 Tm.**Smallest outside diameter **2'-6"**

Length of plain part

Thickness of plates

crown **3/8"**bottom **3/8"**

Description of longitudinal joint

**LAP. WELD.**

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

Working pressure of furnace by Rules **176 lbs.**End plates in steam space: Material **STEEL**Tensile strength **26/30 Tm.**Thickness **1 1/16"**Pitch of stays **15"**How are stays secured **D. NUTS.**Working pressure by Rules **128 lbs.**

Tube plates: Material

front **STEEL**back **STEEL**

Tensile strength

**26/30 Tm.**

Thickness

**1 1/16"**Mean pitch of stay tubes in nests **12" x 12 3/4"**Pitch across wide water spaces **14"**

Working pressure

front **125 lbs.**

back

Girders to combustion chamber tops: Material **STEEL**Tensile strength **29/32 Tm.**

Depth and thickness of girder

At centre **5 7/8" x 1 1/2"**

(2)

Length as per Rule **28.125**Distance apart **9 1/2"**

No. and pitch of stays

On each **2 at 1 3/8"**Working pressure by Rules **122.8 lbs.**Combustion chamber plates: Material **STEEL**Tensile strength **26/30 Tm.**Thickness: Sides **9/16"**Back **9/16"**Top **9/16"**Bottom **9/16"**Pitch of stays to ditto: Sides **9 1/2" x 8 3/4"**Back **9 1/2" x 8 1/2"**Top **8 3/4" x 9 1/2"**Are stays fitted with nuts or riveted over **BOTH.**Working pressure by Rules **130, 133.5, 130**Front plate at bottom: Material **STEEL**Tensile strength **26/30 Tm.**Thickness **1 3/16"**Lower back plate: Material **STEEL**Tensile strength **26/30 Tm.**Thickness **1 3/16"**Pitch of stays at wide water space **13 1/2"**Are stays fitted with nuts or riveted over **NUTS.**Working Pressure **120 lbs.**Main stays: Material **STEEL**Tensile strength **28/32 Tm.**

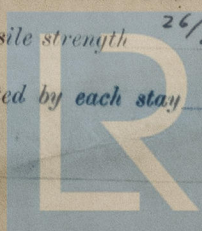
Diameter

At body of stay, **2" 8 2 1/4"**No. of threads per inch **6**Area supported by each stay **18" x 12"**Working pressure by Rules **121 lbs.**Screw stays: Material **STEEL**Tensile strength **26/30 Tm.**

Diameter

At turned off part, **1 3/8" 1 1/2"**No. of threads per inch **9**Area supported by each stay **8 3/4" x 9 1/2"**

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Working pressure by Rules 121.8 Are the stays drilled at the outer ends 1/10 Margin stays: Diameter { At turned off part, or Over threads 1 1/2" ✓

No. of threads per inch 9 Area supported by each stay 11" x 9 1/2" Working pressure by Rules 120 1/2

Tubes: Material STEEL External diameter { Plain 3" Stay 3" Thickness { 10 w.g. 1/4" No. of threads per inch 9

Pitch of tubes 12 3/4" x 12" Working pressure by Rules 132.8 1/16

Manhole compensation: Size of opening in end plate 16" x 12" Section of compensating ring — No. of rivets and diameter of rivet holes ✓

Outer row rivet pitch at ends ✓ Depth of flange if manhole flanged 3 3/8" 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 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 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,  
 PER PRO MACCOLL & POLLOCK LTD. Manufacturer.

Dates of Survey { During progress of work in shops - - - 30/ Sep. 12, 15, 18, 25 Oct. 16, 20, 22. Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.)

while building { During erection on board vessel - - - Nov. 5, 20, 28 Total No. of visits 10

**GENERAL REMARKS** (State quality of workmanship, opinions as to class, &c.) This Boiler has been built under Special Survey. The materials and workmanship are good. On completion it was tested hydraulically to 230 lbs. per sq. inch and found sound and tight.

It is stated that this boiler is intended to be fitted in Ship No. 181 now building by Henry Robt. & Co. Ltd. Leith.

The Boiler will be eligible, in my opinion, to have the notation  D.B. (with date) marked in red in the Society's Register Book, when satisfactorily fitted in the vessel and safety valves adjusted under steam.

This boiler has been efficiently fitted on board + its safety valves have been adjusted under steam. Accumulation tests were carried out with satisfactory results.

John Houston.  
 Leith. 6/2/31

Survey Fee ... £ 4 : 16 : 0 When applied for, 1 DEC 1930

Travelling Expenses (if any) £ : : When received, 8/12/1930

J. H. Scott.

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUE. 17 FEB 1931

Assigned

See Lth. 7E. 17948



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