

## REPORT ON BOILERS.

No. 80564

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Date of writing Report 12th Aug 1926 When handed in at Local Office 12th Aug 1926 Port of Newcastle on TyneNo. in Survey held at St Peter's Newcastle Date, First Survey 30th Decr 1925 Last Survey 11th Aug 1926g. Book. 1554 on the S.S. El. Amir Farouq (Number of Visits       ) Tons 825  
Gross  
NetMaster        Built at Hebburn By whom built R.H. Hawthorn Leslie & Co. Ltd Yard No. 543 When built 1926  
Engines made at St Peter's By whom made R.H. Hawthorn Leslie & Co. Ltd Engine No. 3645 When made 1926  
Boilers made at do By whom made do Boiler No. 3645 When made 1926  
Nominal Horse Power        Owners Egyptian Government Port belonging to Egyptian

## MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel D. Colville & Son Ltd. (Letter for Record S)  
Total Heating Surface of Boilers 6232 sq ft Is forced draught fitted yes Coal or Oil fired oil  
No. and Description of Boilers No. Single Ended Working Pressure 200 lb per sq in  
Tested by hydraulic pressure to 350 lb Date of test 19/2/26 No. of Certificate 9974 Can each boiler be worked separately yes  
Area of Firegrate in each Boiler Oil fuel No. and Description of safety valves to each boiler No, direct spring  
Area of each set of valves per boiler per Rule 15.70" High Lift Pressure to which they are adjusted 200 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 18" Is oil fuel carried in the double bottom under boilers no  
Smallest distance between shell of boiler and tank top plating open / 6mm Is the bottom of the boiler insulated yes  
Largest internal dia. of boilers 16'-0" Length 12'-6" Shell plates: Material Steel Tensile strength 28/32 tons  
Thickness 1 7/16" Are the shell plates welded or flanged no Description of riveting: circ. seams end 2 R Lap  
Long. seams Double straps (5 rivets) Diameter of rivet holes in circ. seams 1 7/16" Pitch of rivets inter. None  
Percentage of strength of circ. end seams plate 64.5 Percentage of strength of circ. intermediate seam plate None  
rivets 45.8  
Percentage of strength of longitudinal joint plate 55.75 Working pressure of shell by Rules 200 lb per sq in  
rivets 56.1  
combined 58.7  
Thickness of butt straps outer 1 3/32" No. and Description of Furnaces in each Boiler 3, Mousions 30 ft  
inner 1 7/32" Tensile strength 26/30 tons Smallest outside diameter 49 7/8"  
Material Steel Thickness of plates crown 1 1/16" Description of longitudinal joint Welded  
Length of plain part bottom Working pressure of furnace by Rules 205 lb per sq in  
Dimensions of stiffening rings on furnace or c.c. bottom None  
End plates in steam space: Material Steel Tensile strength 26/30 tons Thickness 1 5/32" Pitch of stays 24" x 22"  
How are stays secured Double nuts Working pressure by Rules 212 lb per sq in  
Tube plates: Material front 1 3/16" Steel Tensile strength 26/30 tons Thickness back 1 3/16"  
Clean pitch of stay tubes in nests 12" x 7 3/4" Pitch across wide water spaces 13 3/4" Working pressure front 243 lb per sq in  
Orders to combustion chamber tops: Material Steel Tensile strength 28/32 tons Depth and thickness of girder  
At centre 12" x 1 9/16" Length as per Rule 38 1/2" Distance apart 10" No. and pitch of stays  
At each Three, 9" Working pressure by Rules 232 lb per sq in Combustion chamber plates: Material Steel  
Tensile strength 26/30 tons Thickness: Sides 23/32" Back 45/64" Top 23/32" Bottom 15/16"  
Pitch of stays to ditto: Sides 10" x 9" Back 10" x 8 1/2" Top 10" x 9" Are stays fitted with nuts or riveted over Nuts  
Working pressure by Rules 200 lb per sq in Front plate at bottom: Material Steel Tensile strength 26/30 tons  
Thickness 1" Lower back plate: Material Steel Tensile strength 26/30 tons Thickness 29/32"  
Pitch of stays at wide water space 15 1/4" x 8 1/2" Are stays fitted with nuts or riveted over Nuts  
Working Pressure 201 lb per sq in Main stays: Material Steel Tensile strength 28/32 tons  
Diameter At body of stay, 3 7/8" No. of threads per inch 6 Area supported by each stay 484 sq in  
Over threads Screw stays: Material Steel Tensile strength 26/30 tons  
Working pressure by Rules 211 lb per sq in No. of threads per inch 9 Area supported by each stay 90 sq in  
Diameter At turned off part, 1 3/4"



Working pressure by Rules 201 lb Are the stays drilled at the outer ends Yes Margin stays: Diameter { At turned off part, 2" - 2 1/8"  
 No. of threads per inch 9 Area supported by each stay 109 sq. in. Working pressure by Rules 225 lb per sq. in.  
 Tubes: Material Iron External diameter { Plain 2 3/4" Thickness { 9/16" No. of threads per inch 9  
 Stay 2 3/4" Pitch of tubes 4" x 3 7/8" Working pressure by Rules 215 lb per sq. in. Manhole compensation: Size of opening 17" x 13"  
 shell plate 17" x 13" Section of compensating ring 34 x 31 x 1 7/8" No. of rivets and diameter of rivet holes 1 rivet hole, 1 7/8"  
 Outer row rivet pitch at ends 10 1/16" Depth of flange if manhole flanged Yes Steam Dome: Material None  
 Tensile strength Yes Thickness of shell Yes Description of longitudinal joint Yes  
 Diameter of rivet holes Yes Pitch of rivets Yes Percentage of strength of joint { Plate Yes  
 Rivets Yes Internal diameter Yes Working pressure by Rules Yes Thickness of crown Yes No. and diameter of stays Yes  
 Inner radius of crown Yes Working pressure by Rules Yes How connected to shell Yes  
 Size of doubling plate under dome Yes Diameter of rivet holes and pitch of rivets in outer row in dome connection to shell Yes

Type of Superheater None Manufacturers of { Tubes Yes  
 Steel castings Yes Number of elements Yes Material of tubes Yes Internal diameter and thickness of tubes Yes  
 Material of headers Yes Tensile strength Yes Thickness Yes Can the superheater be shut off and the boiler be worked separately Yes  
 Is a safety valve fitted to every part of the superheater which can be shut off from the boiler Yes Area of each safety valve Yes  
 Are the safety valves fitted with easing gear Yes Rules Yes Pressure to which the safety valves are adjusted Yes Working pressure as per tubes Yes  
 castings Yes and after assembly in place Yes Hydraulic test pressure: Yes Are drain cocks or valves fitted to free the superheater from water where necessary Yes

Have all the requirements of Sections 14 to 23 inclusive for boilers been complied with Yes

The foregoing is a correct description,  
 For B. & W. HAWTHORNE STEEL CO. Ld. Manufacturer.

Dates of Survey { During progress of work in shops - -  
 while building { During erection on board vessel - - -  
See Memo Report

Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.)  
Yes  
 Total No. of visits 1

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)  
These boilers have been constructed under special survey. have been securely fitted on board & safety valves adjusted

For recommendations, please see attached sheet on machinery

Survey Fee ... See Memo Report When applied for, 192  
 Travelling Expenses (if any) £ : : When received, 192

Committee's Minute FRI. 13 AUG 1926  
 Assigned See Expt. attached

George Hurdock  
 Engineer Surveyor to Lloyd's Register of Shipping.