

## REPORT ON BOILERS.

No. 51930

Received at London Office

Date of writing Report 28-12-1942. When handed in at Local Office 22-2-1943 Port of HULL.

No. in Survey held at HULL.  
Reg. Book.

Date, First Survey 24.2.42. Last Survey 26.21 1943

on the STEAM TANKER.

EMPIRE FAUN.

(Number of Visits 46.)  
Tons { Gross 846  
Net 364

Built at GOOLE By whom built Goole S.B. &amp; Co. Ltd. Yard No. 389. When built 1943

Engines made at HULL. By whom made Amos &amp; Smith Ltd. Engine No. 709. When made

Boilers made at HULL. By whom made Amos &amp; Smith Ltd. Boiler No. 709. When made

Nominal Horse Power 154 Owners Ministry of War Transport Port belonging to Goole

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

Manufacturers of Steel Appleby Farnham, Steel Co Ltd and Colvilles' (Letter for Record 5 ✓)

Total Heating Surface of Boilers 2400 ft. Is forced draught fitted Yes. ✓ Coal or Oil fired Oil Fuel ✓

No. and Description of Boilers One S. B. Working Pressure 200 lb./sq. in. ✓

Tested by hydraulic pressure to 350 lb./sq. in. Date of test 11-9-42. No. of Certificate 4161. Can each boiler be worked separately —

Area of Firegrate in each Boiler Oil Fired. No. and Description of safety valves to each boiler 2 @ 3 1/2" dia Spring Loaded ✓

Area of each set of valves per boiler { per Rule 17-45-13-95  
as fitted 19-24. Pressure to which they are adjusted 200 lb./sq. in. Are they fitted with easing gear Yes. ✓

In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler None. ✓

Smallest distance between boilers or uptakes and bunkers or woodwork 6'-0". ✓ Is oil fuel carried in the double bottom under boilers No

Smallest distance between shell of boiler and tank top plating None 10'-10 3/16". Is the bottom of the boiler insulated Yes

Largest internal dia. of boilers 14'-9 3/8". ✓ Length 11'-0". ✓ Shell plates: Material Steel ✓ Tensile strength 29-33 ton/in. ✓

Thickness 1 5/16". ✓ Are the shell plates welded or flanged No. Description of riveting: circ. seams { end D.R. Cap.  
inter. —long. seams T.R., D.B.S. Diameter of rivet holes in { circ. seams 1 5/16"  
long. seams 1 5/16". Pitch of rivets { 3 3/4"  
8 1/2"Percentage of strength of circ. end seams { plate 64.9%  
rivets 43 56% Percentage of strength of circ. intermediate seam { plate  
rivetsPercentage of strength of longitudinal joint { plate 84.5%  
rivets 90.1%  
combined 88.0%.Thickness of butt straps { outer 1"  
inner 1 1/8". ✓ No. and Description of Furnaces in each Boiler 3 Delighton Section Cf. ✓

Material Steel. Tensile strength 26-30 ton/in. ✓ Smallest outside diameter 3'-7 1/4".

Length of plain part { top ✓  
bottom ✓ Thickness of plates { crown 5/8"  
bottom 5/8". ✓ Description of longitudinal joint Weld

Dimensions of stiffening rings on furnace or c.c. bottom None.

End plates in steam space: Material Steel. ✓ Tensile strength 26-30 ton/in. ✓ Thickness 1 3/16". ✓ Pitch of stays 1'-8" x 1'-6". ✓

How are stays secured Nuts and washers inside and out.

Tube plates: Material { front Steel  
back Steel Tensile strength { 26-30 ton/in. ✓  
26-30 ton/in. ✓ Thickness { 15/16"  
7/8". ✓

Mean pitch of stay tubes in nests 7 3/8". 7 1/16". Pitch across wide water spaces 13 1/2". ✓

Girders to combustion chamber tops: Material Steel. ✓ Tensile strength 29-33 ton/in. ✓ Depth and thickness of girder

at centre 9 1/4" x 7 3/8". Double. ✓ Length as per Rule 34". Distance apart 9". No. and pitch of stays

in each 3 @ 8". Combustion chamber plates: Material Steel.

Tensile strength 26-30 ton/in. ✓ Thickness: Sides 23/32". Back 1 1/16". Top 23/32". Bottom 23/32". ✓

Pitch of stays to ditto: Sides 9 1/2" x 8". Back 9 1/2" x 8 1/2". Top 9" x 8". ✓ Are stays fitted with nuts or riveted over Nuts.

Front plate at bottom: Material Steel. Tensile strength 26-30 ton/in. ✓

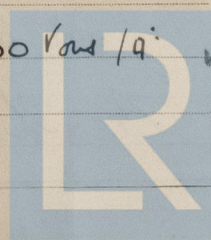
Thickness 1 5/16". ✓ Lower back plate: Material Steel. Tensile strength 26-30 ton/in. ✓ Thickness 7/8". ✓

Pitch of stays at wide water space 13 1/2" x 8 1/2". ✓ Are stays fitted with nuts or riveted over Nuts.

Main stays: Material Steel. Tensile strength 28-32 ton/in. ✓

Diameter { At body of stay, 3 1/4". ✓  
or  
Over threads — No. of threads per inch 6". ✓

Screw stays: Material Steel. Tensile strength 26-30 ton/in. ✓

Diameter { At turned off part, —  
or  
Over threads 1 3/4". ✓ No. of threads per inch 9". ✓

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Are the stays drilled at the outer ends No. Margin stays: Diameter { At turned off part, 2" a 1 7/8" or Over threads 2" a 1 7/8" ✓

No. of threads per inch 9. ✓

Tubes: Material IRON. ✓ External diameter { Plain 2 1/2" ✓ Stay 2 1/2" ✓ Thickness { 9.w.g. ✓ 7/16", 3/8", 5/16" No. of threads per inch 9.

Pitch of tubes 3 1/16" x 4" ✓ Manhole compensation: Size of opening in shell plate 12" (x 16") ✓ Section of compensating ring 21" x 1 5/16" ✓ No. of rivets and diameter of rivet holes 28 @ 1 5/16" ✓

Outer row rivet pitch at ends 8 1/2" ✓ Depth of flange if manhole flanged - ✓ 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 \_\_\_\_\_ Thickness of crown \_\_\_\_\_ No. and diameter of stays \_\_\_\_\_ Inner radius of crown \_\_\_\_\_

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 forgings \_\_\_\_\_ 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 \_\_\_\_\_

Area of each safety valve \_\_\_\_\_ Is a safety valve fitted to every part of the superheater which can be shut off from the boiler \_\_\_\_\_

Pressure to which the safety valves are adjusted \_\_\_\_\_ Are the safety valves fitted with easing gear \_\_\_\_\_

tubes \_\_\_\_\_ forgings and castings \_\_\_\_\_ and after assembly in place \_\_\_\_\_ Hydraulic test pressure: \_\_\_\_\_

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.

For AMOS & SMITH LTD.  
The foregoing is a correct description,  
A. S. Cusker Manufacturer.

Dates of Survey { During progress of work in shops - - - } See machinery report attached ✓ Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.) ✓

while building { 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. EMPIRE BOY. HUL. RPL. 51479.

#### GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)

This Boiler has been constructed under special survey in accordance with the approved plans and the Rule.

The Workmanship and Materials are good and when subjected to an hydraulic test of 350 lbs 10". It was found satisfactory in every respect.

Above boiler examined under steam, safety valves adjusted as noted and accumulation test held and furnaces and combustion chambers afterwards examined on completion of all trials. to SS

Survey Fee ... £ : : When applied for, 19

Travelling Expenses (if any) £ : : When received, 19

J. P. H. ...  
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUES. 23-MAR 1943

Assigned

See HUL. 26. 51930



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