

REPORT ON BOILERS.

No. 21561.

Date of writing Report 13th SEPT. 1941.When handed in at Local Office 13th SEPT. 1941.

Received at London Office

8 SEP 1941

Port of Greenock

No. in Survey held at

GreenockDate, First Survey 24th APRIL. 1941. Last Survey 22nd AUG. 1941.

on the

"Empire Baster"

(Number of Visits)

Tons { Gross
NetMaster _____ Built at Barrow By whom built Vickers Armstrong Ltd Yard No. 7/7134 When built _____

Engines made at _____ By whom made _____ Engine No. _____ When made _____

Boilers made at Greenock By whom made John G. Kincaid & Co. L^{td} Boiler No. 249 When made 1941

Nominal Horse Power _____ Owners _____ Port belonging to _____

MULTITUBULAR BOILERS — ~~MAIN~~, AUXILIARY, OR ~~DONKEY~~.Manufacturers of Steel Colvilles L^{td}Total Heating Surface of Boilers 1786Is forced draught fitted yes(Letter for Record S)Coal or Oil fired CoalNo. and Description of Boilers One Cylindrical MultitubularWorking Pressure 220 lb/sq inTested by hydraulic pressure to 380 lbs Date of test 21-6-41 No. of Certificate 2244 Can each boiler be worked separately _____Area of Firegrate in each Boiler 45 sq ft No. and Description of safety valves to each boiler One 2" 0" Double opening 14 lb.Area of each set of valves per boiler { per Rule 4.75 sq ft
as fitted 6.28 sq ft Pressure to which they are adjusted _____ 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 _____ 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 12'-9 1/2" Length 11'-6" Shell plates: Material S Tensile strength 29/33Thickness 1 1/4" Are the shell plates welded or flanged No Description of riveting: circ. seams { end DR
inter. _____long. seams TR. Dds. Diameter of rivet holes in { circ. seams 1 5/16"
long. seams 1 5/16" Pitch of rivets { 3.79"
9.125"Percentage of strength of circ. end seams { plate 65.3%
rivets 45.2% Percentage of strength of circ. intermediate seam { plate _____
rivets _____Percentage of strength of longitudinal joint { plate 85.6%
rivets 87.8% Working pressure of shell by Rules 223 lb
combined 89Thickness of butt straps { outer 1"
inner 1.125" No. and Description of Furnaces in each Boiler 3 DeightonMaterial S Tensile strength 24/30 tons Smallest outside diameter 37.25"Length of plain part { top _____
bottom _____ Thickness of plates { crown 19/32"
bottom 19/32" Description of longitudinal joint Weld.Dimensions of stiffening rings on furnace or c.c. bottom _____ Working pressure of furnace by Rules 232 lbEnd plates in steam space: Material S Tensile strength 24/30 tons Thickness 17/32" Pitch of stays 19 x 16"How are stays secured DN Working pressure by Rules 224 lbTube plates: Material { front S
back S Tensile strength { 24/30 tons Thickness { 15/16"
25/32"Mean pitch of stay tubes in nests 9.75" Pitch across wide water spaces 14" Working pressure { front 229 lb
back 230 lbGirders to combustion chamber tops: Material S Tensile strength 28/32 Depth and thickness of girder _____at centre 8 1/2" x 1 1/4" Length as per Rule 2.7 1/32" Distance apart 7" No. and pitch of stays _____in each 20 10" Working pressure by Rules 225 lb Combustion chamber plates: Material STensile strength 24/30 tons Thickness: Sides 1 1/8" Back 1 1/8" Top 1 1/8" Bottom 3/4"Pitch of stays to ditto: Sides 10 x 7" Back 5 x 9 1/4" Top 7 x 10" Are stays fitted with nuts or riveted over NutsWorking pressure by Rules 221 lb Front plate at bottom: Material S Tensile strength 24/30 tonsThickness 15/16" Lower back plate: Material S Tensile strength 24/30 tons Thickness 27/32"Pitch of stays at wide water space 14" x 8" Are stays fitted with nuts or riveted over NutsWorking Pressure 223 lb Main stays: Material S Tensile strength 29/32 tonsDiameter { At body of stay, 2 7/8"
or
Over threads _____ No. of threads per inch 6 Area supported by each stay 304 sq inWorking pressure by Rules 236 lb Screw stays: Material S Tensile strength 24/30 tonsDiameter { At turned off part, 1 3/4"
or
Over threads _____ No. of threads per inch 9 Area supported by each stay 74 sq in

Working pressure by Rules 245 1/2 Are the stays drilled at the outer ends No Margin stays: Diameter { At turned off part, or Over threads 1 3/5

No. of threads per inch 9 Area supported by each stay 93" Working pressure by Rules 229 1/2

Tubes: Material Steel External diameter { Plain 3" Stay 3" Thickness { 3/8" 5/16" No. of threads per inch 9

Pitch of tubes 4 1/4" x 4 7/8" Working pressure by Rules 237 1/2 Manhole compensation: Size of opening in shell plate 20 1/2" x 16 1/2" Section of compensating ring 2'-11" x 3'-4" x 1 1/4" No. of rivets and diameter of rivet holes 40 - 1 5/16"

Outer row rivet pitch at ends 9-12 1/2" Depth of flange if manhole flanged ✓ 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 ✓

How connected to shell ✓ Inner radius of crown ✓ Working pressure by Rules ✓

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 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 ✓

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 casing gear ✓ Working pressure as per Rules ✓

Pressure to which the safety valves are adjusted ✓ Hydraulic test pressure: tubes ✓ forgings and 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 ✓

The foregoing is a correct description,
For JOHN G. KINCAID & CO. LIMITED.
W. C. Cuthbert Director. Manufacturer.

Dates of Survey { During progress of work in shops - - - (1941) APRIL 24 MAY 2 16 JUN 26 9 16 21 30 Are the approved plans of boiler and superheater forwarded herewith No. 7-3-41 96
while building { During erection on board vessel - - - JULY 16 AUG. 22
(If not state date of approval.)

Total No. of visits 11

Is this Boiler a duplicate of a previous case No If so, state Vessel's name and Report No. ✓

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

This boiler has been built under special survey in accordance with the Rules and approved plans. The materials & workmanship are sound & good. The boiler has now been shipped to Barran for fitting on board a vessel building by Messrs Vickers Armstrong & Co. Ltd.

Survey Fee £ 11 : 18 : When applied for, 25 SEPT. 1941
Travelling Expenses (if any) £ : : When received, 10

Charles Y. Hunter
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 16 SEP 1941

Assigned Superintendent

See Bm file
made 24-10-41
FRI 9 JAN 1942
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