

REPORT ON BOILERS.

MOB. 18240

No. 18148

Received at London Office

OCT 1946

Date of writing Report 24th Sept 1946 When handed in at Local Office 30th Sept 1946 Port of Middlesbrough.No. in Survey held at Stockton-on-Tees. Date, First Survey 26th April, 1946 Last Survey 12th Sept. 1946.

Reg. Book. on the M/V "CYRENA" (Number of Visits 14.) Tons { Gross 4373 Net 2455

Built at So. Bank By whom built Smith Dock Co. Ltd. Yard No. 1160 When built 1947

Engines made at Belfast By whom made Harland & Wolff Ltd. Engine No. 2217 When made 1947

Boilers made at Stockton-on-Tees By whom made Stockton C.E. & Riley Bros. Ltd. Boiler No. 6957 When made 1946

Nominal Horse Power Owners Anglo-Saxon Petroleum Co. Ltd. Port belonging to London

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Appleby Farnham Steel Co. Ltd. (Letter for Record S. ✓)

Total Heating Surface of Boilers 1530 sq ft Is forced draught fitted yes Cooler Oil fired yes

No. and Description of Boilers 1, S.E. Multitubular Working Pressure 180 lb/sq in.

Tested by hydraulic pressure to 220 lb/sq in. Date of test 12/9/46 No. of Certificate 7189 Can each boiler be worked separately ✓

Area of Firegrate in each Boiler No. and Description of safety valves to each boiler 1-2" Double High Lift. (3/4 Rule size) ✓

Area of each set of valves per boiler { per Rule 6.54 sq ft as fitted 6.28 sq ft Pressure to which they are adjusted 185 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 ✓

Smallest distance between boilers or uptakes and bunkers or woodwork 3'-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 11'-8" Length 10'-8" Shell plates: Material Steel Tensile strength 29-35. ✓

Thickness 1" Are the shell plates welded or flanged No. Description of riveting: circ. seams { end D.R. Lap. ✓

long. seams TR. DBs. ✓ Diameter of rivet holes in { circ. seams 1 1/16" Pitch of rivets { 3-235. ✓

Percentage of strength of circ. end seams { plate 67.14 % rivets 43.47 Percentage of strength of circ. intermediate seam { plate 85.8 rivets 90.9 ✓

Percentage of strength of longitudinal joint { plate 85.8 rivets 90.9 ✓

Thickness of butt straps { outer 3/4" inner 7/8" No. and Description of Furnaces in each Boiler 3 Morrison Corrugated. ✓

Material Steel Tensile strength 26-30 Smallest outside diameter 2'-8 1/2" ✓

Length of plain part { top 7'-16" bottom 7'-16" Description of longitudinal joint welded. ✓

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

End plates in steam space: Material Steel Tensile strength 26-30 Thickness 1" Pitch of stays 16 7/8" x 15 3/4" ✓

How are stays secured Double nuts & washers ✓

Tube plates: Material { front Steel Tensile strength 26-30 Thickness 1" ✓

Mean pitch of stay tubes in nests 9 3/4" Pitch across wide water spaces 14 1/4" ✓

Girders to combustion chamber tops: Material Steel Tensile strength 28-32 Depth and thickness of girder ✓

at centre 8" - 2 @ 2 3/32" Length as per Rule 2' - 15 1/8" Distance apart No. and pitch of stays ✓

in each 2 @ 8 1/4" Combustion chamber plates: Material Steel. ✓

Tensile strength 26-30 Thickness: Sides 2 3/32" Back 3/4" Top 2 3/32" Bottom 1" ✓

Pitch of stays to ditto: Sides 8 1/4" x 7 1/4" Back 9 1/16" x 7" Top 9" x 8 1/4" Are stays fitted with nuts or riveted over { Nuts. Margin stays ✓

Front plate at bottom: Material Steel Tensile strength 26-30 ✓

Thickness 1" Lower back plate: Material Steel Tensile strength 26-30 Thickness 1" ✓

Pitch of stays at wide water space 14 1/4" Are stays fitted with nuts or riveted over Riveted over. ✓

Main stays: Material Steel Tensile strength 28-32 ✓

Diameter { At body of stay, or Over threads 2 3/4" No. of threads per inch 9. ✓

Screw stays: Material Steel Tensile strength 26-30 ✓

Diameter { At turned off part, or Over threads 1 1/2" No. of threads per inch 9. ✓



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Are the stays drilled at the outer ends ☒ Yes Margin stays: Diameter { At turned off part, or Over threads 1 5/8"
No. of threads per inch 9
Tubes: Material 4 1/2" x 1/2" x 1/2" External diameter { Plain 2 3/4" Stay 2 1/2" Thickness { 9.509" 5/16" No. of threads per inch 9
Pitch of tubes 3 1/6" + 3 7/8"
shell plate 2 1/2" x 1 7/8" Section of compensating ring 6" x 1 1/8" No. of rivets and diameter of rivet holes 44 - 1 1/16"
Outer row rivet pitch at ends 7 1/2" Depth of flange if manhole flanged
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 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 easing gear
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,

Director - Stockton Chemical Eng. & Riley Boilers Ltd. Manufacturer.

1946
Dates of Survey { During progress of work in shops - 10th, 26th, May, 10, 20, 30, June 13, July 2, 8, 15, 23, Aug. 7, 15, 26, Sept. 4, 12, Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval) Yes.
while building { During erection on board vessel - - - - -
Total No. of visits 14.

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 constructed under Special Survey, & in accordance with the Rule Requirements & approved plan.

The materials & workmanship are good, & on completion the boiler was hydraulically tested to 320 lbs/sq. inch & found satisfactory.

This boiler is being forwarded to Smith, Dock, - So Bank, for their contract EW 1160

This boiler has now been securely fixed on board, & commenced working conditions & found satisfactory. On completion the SVs were adjusted under steam to 185 lbs/sq. inch.

Survey Fee ... £ 15 : 6 : - When applied for, 30-9-1946.
Travelling Expenses (if any) £ : : When received, 10

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute Fri. 11 APR 1947

Assigned See F.E. Welch, opt