

## REPORT ON BOILERS.

No. 96760

Received at London Office OCT 11 1938

Date of writing Report

19

When handed in at Local Office

7/10/1938

Port of

NEWCASTLE-ON-TYNE

No. in  
Reg. Book.

Survey held at

Wallsend.

Date, First Survey

22 Dec/1937

Last Survey

4 Oct 1938

on the

Steamer "Master Elias Kulukundis"

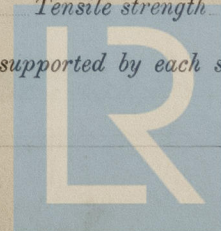
(Number of Visits)

Gross  
Tons  
Net

Master Built at Sunderland By whom built Short Bros Yard No. 456 When built 1938  
 Engines made at Wallsend By whom made N. E. Marine Eng. Co., Ltd. Engine No. 2914 When made 1938  
 Boilers made at Wallsend By whom made N. E. Marine Eng. Co., Ltd. Boiler No. 2914 When made 1938  
 Nominal Horse Power 433 Owners Atlanticos S. S. Co. Ltd Port belonging to Piraeus

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

Manufacturers of Steel Stal Co of Scotland (Letter for Record S)  
 Total Heating Surface of Boilers 4880 sq ft Is forced draught fitted Yes Coal or Oil fired oil  
 No. and Description of Boilers Two single ended multitubular Working Pressure 220 lbs  
 Tested by hydraulic pressure to 380 lbs Date of test 22-8-38 No. of Certificate 793 Can each boiler be worked separately Yes  
 Area of Firegrate in each Boiler No. and Description of safety valves to each boiler Two spring loaded Improved High Lift  
 Area of each set of valves per boiler { per Rule 12.97 sq in Pressure to which they are adjusted 225 lbs Are they fitted with easing gear Yes  
 as fitted 7.94 sq in  
 In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler Yes  
 Smallest distance between boilers or uptakes and bunkers or woodwork 6'-11" Is oil fuel carried in the double bottom under boilers Yes  
 Smallest distance between shell of boiler and tank top plating 24" Is the bottom of the boiler insulated Yes  
 Largest internal dia. of boilers 14'-9 1/8" Length 12'-6" Shell plates: Material Stal Tensile strength 29-33 tons  
 Thickness 1 1/4" Are the shell plates welded or flanged no Description of riveting: circ. seams { end L.D.R.  
 long. seams T.R. double straps Diameter of rivet holes in { circ. seams 1 1/2" Pitch of rivets { 4 1/4"  
 long. seams 1 1/2"  
 Percentage of strength of circ. end seams { plate 64.7 Percentage of strength of circ. intermediate seam { plate —  
 rivets 45.9 rivets —  
 Percentage of strength of longitudinal joint { plate 85.36 Working pressure of shell by Rules 223.5 lbs  
 rivets 89.21  
 combined 88.57  
 Thickness of butt straps { outer 1 1/8" No. and Description of Furnaces in each Boiler 3 Corrugated (Seignton)  
 inner 1 1/4" Tensile strength 26-30 tons Smallest outside diameter 41 9/16"  
 Material Stal Thickness of plates { crown 21" Description of longitudinal joint weld  
 bottom 32"  
 Dimensions of stiffening rings on furnace or c.c. bottom none Working pressure of furnace by Rules 230 lbs  
 End plates in steam space: Material Stal Tensile strength 26-30 tons Thickness 1 1/32" Pitch of stays 25" x 19"  
 How are stays secured double nuts Working pressure by Rules 224 lbs  
 Tube plates: Material { front Stal Tensile strength { 26-30 tons Thickness { 15/16"  
 back Stal Thickness { 7/8"  
 Mean pitch of stay tubes in nests 8 1/8" Pitch across wide water spaces 14 1/2" Working pressure { front 227 lbs  
 back 364 lbs  
 Girders to combustion chamber tops: Material Stal Tensile strength 29-33 tons Depth and thickness of girder  
 at centre 11 1/2" x 2 @ 1" Length as per Rule 46.5" Distance apart 8 1/2" No. and pitch of stays  
 in each 3 @ 10 3/4" Working pressure by Rules 230 lbs Combustion chamber plates: Material Stal  
 Tensile strength 26-30 tons Thickness: Sides 25/32" Back 23/32" C: 11/16" W: 25/32" Top 25/32" Bottom 7/8"  
 Pitch of stays to ditto: Sides 10 3/4" x 8 7/8" Back 8 3/4" x 8 1/4" Top 10 3/4" x 8 1/2" Are stays fitted with nuts or riveted over nuts  
 Working pressure by Rules 222 lbs Front plate at bottom: Material Stal Tensile strength 26-30 tons  
 Thickness 15/16" Lower back plate: Material Stal Tensile strength 26-30 tons Thickness 15/16"  
 Pitch of stays at wide water space 14 1/2" x 8 1/4" Are stays fitted with nuts or riveted over nuts  
 Working Pressure 259 lbs Main stays: Material Stal Tensile strength 28-32 tons  
 Diameter { At body of stay, 3 1/2" No. of threads per inch 6 Area supported by each stay 475 sq in  
 Over threads —  
 Working pressure by Rules 227 lbs Screw stays: Material Stal Tensile strength 26-30 tons  
 Diameter { At turned off part, 1 3/4" & 1 1/8" No. of threads per inch 9 Area supported by each stay 45.4 sq in  
 Over threads —


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Working pressure by Rules 228 lbs Are the stays drilled at the outer ends no Margin stays: Diameter { At turned off part, 1 1/8 or Over threads. 1 1/8 ✓  
No. of threads per inch 9 Area supported by each stay 96 sq Working pressure by Rules 222 lbs  
Tubes: Material S.D. Steel External diameter { Plain 2 1/2 Stay 2 1/2 Thickness { 7/16 + 3/8 No. of threads per inch 9  
Pitch of tubes 3 3/4" x 3 3/4" Working pressure by Rules 252 lbs Manhole compensation: Size of opening in  
END shell 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 4 5/16" 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 Combustion Chamber Manufacturers of { Tubes Messrs Talbot Stead  
Steel forgings Messrs Stewart & Lloyds  
Steel castings Hopkinson Ltd.  
Number of elements 26 Material of tubes S.D. steel Internal diameter and thickness of tubes 1.148" x 7/16"  
Material of headers Solid drawn steel Tensile strength 26-28 tons Thickness 1" Can the superheater be shut off and  
the boiler be worked separately no 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 3.1416 sq Are the safety valves fitted with easing gear yes Working pressure as per  
Rules 220 lbs Pressure to which the safety valves are adjusted 225 lbs Hydraulic test pressure:  
tubes 1500 lbs forgings and castings 660 lbs and after assembly in place 440 lbs Are drain cocks or  
valves fitted to free the superheater from water where necessary yes

Have all the requirements of Sections 14 to 22 inclusive for boilers been complied with —

The foregoing is a correct description,  
THE NORTH EASTERN MARINE ENGINEERING CO. LTD.  
John Neill Manufacturer.

Dates of Survey { During progress of work in shops - - }  
while building { During erection on board vessel - - }  
Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.) yes  
Total No. of visits —

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.) These boilers have been built under Special Survey, in accordance with the Rules and approved plan. The materials and workmanship are good. On completion they were tested by water pressure to 380 lbs pounds per square inch water pressure, and found tight and satisfactory. They have been fitted on board in a satisfactory manner, tried under working conditions and found in order.

Survey Fee ... £ charged on When applied for, 19  
Travelling Expenses (if any) £ Inachy Rpt When received, 19

J. S. Sellers

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI 14 OCT 1938

Assigned See minute on J.E. Mack.



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