

# REPORT ON BOILERS.

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 Survey held at Wallsend. Date, First Survey 22 Dec/1937 Last Survey 4 Oct 1938

Reg. Book. on the Steamer "Master Elias Kulukundis" (Number of Visits) Tons {Gross 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 as fitted 7.94 sq in Pressure to which they are adjusted 225 lbs 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 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 Steel Tensile strength 29-33 tons

Thickness 1 7/8" Are the shell plates welded or flanged ho Description of riveting: circ. seams {end L.D.R. 1 1/2" inter. 1 1/2" long. seams T.R. double straps Diameter of rivet holes in {circ. seams 1 1/2" long. seams 1 1/2" Pitch of rivets 4 1/4" 10 1/4"

Percentage of strength of circ. end seams {plate 64.7 rivets 45.9 Percentage of strength of circ. intermediate seam {plate - rivets -

Percentage of strength of longitudinal joint {plate 85.36 rivets 89.21 combined 88.57 Working pressure of shell by Rules 223.5 lbs

Thickness of butt straps {outer 1 1/8" inner 1 1/4" No. and Description of Furnaces in each Boiler 3 Corrugated (Deighton)

Material Steel Tensile strength 26-30 tons Smallest outside diameter 41 9/16"

Length of plain part {top - bottom - Thickness of plates {crown 21/32 bottom 3/32 Description of longitudinal joint weld

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 Steel Tensile strength 26-30 tons Thickness 1 11/32" Pitch of stays 25" x 19"

How are stays secured double nuts Working pressure by Rules 224 lbs

Tube plates: Material {front back Steel Tensile strength 26-30 tons Thickness {15/16" 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 Steel 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 Steel

Tensile strength 26-30 tons Thickness: Sides 25/32" Back 23/32" C: 11/16" W 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 Steel Tensile strength 26-30 tons

Thickness 15/16" Lower back plate: Material Steel Tensile strength 26-30 tons Thickness 15/16"

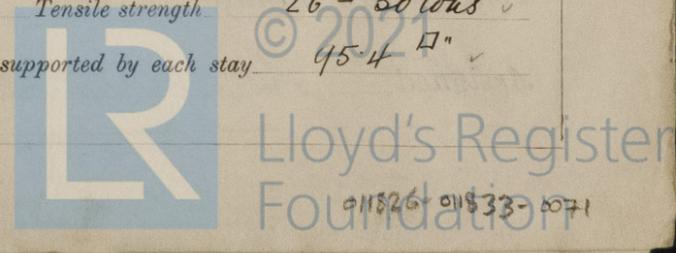
Pitch of stays at wide water space 14 1/2" x 8 1/4" Are stays fitted with nuts or riveted over nuts

Working Pressure 259 lbs Main stays: Material Steel Tensile strength 28-32 tons

Diameter {At body of stay, or Over threads 3 1/2" No. of threads per inch 6 Area supported by each stay 475 sq in

Working pressure by Rules 227 lbs Screw stays: Material Steel Tensile strength 26-30 tons

Diameter {At turned off part, or Over threads 1 3/4" + 1 1/8" No. of threads per inch 9 Area supported by each stay 45.4 sq in



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 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 400 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 - - } 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 -  
See inquiry report

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) £ Trachy Rpt } When received, 19

J. Sellers  
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI 14 OCT 1938  
 Assigned See minute on P.E. mach.

