

REPORT ON BOILERS.

Received at London Office **MAR 13 1941**

Date of writing Report **10/3/1941** When handed in at Local Office **10/3/1941** Port of **WEST HARTLEPOOL.**

No. in Survey held at **WEST HARTLEPOOL.** Date, First Survey **19th January, 1940.** Last Survey **5th March, 1941**

(Number of Visits **118**) Gross **6793.06**
Tons Net **3969.29**

on the **S.S. 'IKAUHA'**

Built at **West Hartlepool** By whom built **Wm. Gray & Co. Ltd.** Yard No. **1106** When built **1941**

Engines made at **West Hartlepool** By whom made **Central Marine Engine Works.** Engine No. **1106** When made **1941**

Boilers made at **West Hartlepool** By whom made **Central Marine Engine Works.** Boiler No. **1106** When made **1941**

Nominal Horse Power **669.** Owners **British India Steam Nav Co. Ltd.** Port belonging to **LONDON**

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

Manufacturers of Steel **Messrs. Colvilles & Co. Glasgow.** (Letter for Record **S**)

Total Heating Surface of Boilers **8,500 sq ft** Is forced draught fitted **Yes** Coal or Oil fired **Coal**

No. and Description of Boilers **Four single ended multitubular** Working Pressure **250 lbs/sq in**

Tested by hydraulic pressure to **425 lbs/sq in** Date of test **26-9-40** No. of Certificate **3920** Can each boiler be worked separately **Yes**

Area of Firegrate in each Boiler **55 sq ft** No. and Description of safety valves to each boiler **Two Cockburn High Lift**

Area of each set of valves per boiler (per Rule **5.01 sq in** as fitted **6.28 sq in**) Pressure to which they are adjusted **250 lbs/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 **No**

Smallest distance between boilers or uptakes and bunkers or woodwork **2'-3"** Is oil fuel carried in the double bottom under boilers **No**

Smallest distance between shell of boiler and tank top plating **2'-6"** Is the bottom of the boiler insulated **Yes**

Largest internal dia. of boilers **14'-0"** Length **11'-6"** Shell plates: Material **Steel** Tensile strength **31/35 tons**

Thickness **1 7/16"** Are the shell plates welded or flanged **No** Description of riveting: circ. seams (end **D.R. LAP** inter. **-**)

long. seams **T.R. Double Butts** Diameter of rivet holes in (circ. seams **1 1/2"** long. seams **1 9/16"**) Pitch of rivets (inter. **4 1/2"** end **10 1/4"**)

Percentage of strength of circ. end seams (plate **63.6** rivets **44.2**) Percentage of strength of circ. intermediate seam (plate **-** rivets **-**)

Percentage of strength of longitudinal joint (plate **84.75** rivets **90.5** combined **87.6**)

Thickness of butt straps (outer **1 1/8"** inner **1 1/4"**) No. and Description of Furnaces in each Boiler **3 Deighton Section Gourlay necks**

Material **Steel** Tensile strength **26/30 tons** Smallest outside diameter **20 1/16"**

Length of plain part (top **-** bottom **-**) Thickness of plates (crown **23/32"** bottom **32/32"**) Description of longitudinal joint **Welded**

Dimensions of stiffening rings on furnace or c.c. bottom **-**

End plates in steam space: Material **Steel** Tensile strength **26/30 tons** Thickness **1 3/8"** Pitch of stays **19 3/4" x 17 3/4"**

How are stays secured **Double nuts**

Tube plates: Material (front **Steel** back **Steel**) Tensile strength (front **26/30 tons** back **26/30 tons**) Thickness (front **1"** back **3/4"**)

Mean pitch of stay tubes in nests **12 3/4" x 8 1/4"** Pitch across wide water spaces **14"**

Girders to combustion chamber tops: Material **Steel** Tensile strength **28/32 tons** Depth and thickness of girder

at centre **9 1/4" x 1 3/4" 2-3/8" plates** length as per Rule **2'-9 1/2"** Distance apart **9 1/4"** No. and pitch of stays

in each **3 @ 8 1/2"** Combustion chamber plates: Material **Steel**

Tensile strength **26/30 tons** Thickness: Sides **3/4"** Back **3/4"** Top **3/4"** Bottom **27/32"**

Pitch of stays to ditto: Sides **9 1/8" x 8 5/8"** Back **9 1/4" x 8 1/2"** Top **9 1/4" x 8 1/2"** Are stays fitted with nuts or riveted over **Nuts**

Front plate at bottom: Material **Steel** Tensile strength **26/30 tons**

Thickness **1"** Lower back plate: Material **Steel** Tensile strength **26/30 tons** Thickness **31/32"**

Pitch of stays at wide water space **14 3/16"** Are stays fitted with nuts or riveted over **Nuts**

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**

Screw stays: Material **Steel** Tensile strength **26/30 tons**

Diameter (At turned off part **-** or Over threads **1 3/8"**) No. of threads per inch **9**

If not, state whether, and when, one will be a Report also sent on the Hull of the S.S. (M.A.D. and PRINTED IN ENGLAND) (Im. 4.80—Copyable Ink.)



Are the stays drilled at the outer ends Yes Margin stays: Diameter { At turned off part, 2 1/8" or Over threads 2 1/8" ✓

No. of threads per inch 9

Tubes: Material SD Steel External diameter { Plain 3" ✓ Stay 3" ✓ Thickness { 8 SWG ✓ 1/4" 5/16" 3/8" No. of threads per inch 9 ✓

Pitch of tubes 4 1/4" x 4 1/8" Manhole compensation: Size of opening in shell plate _____ Section of compensating ring _____ No. of rivets and diameter of rivet holes _____

Outer row rivet pitch at ends _____ 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 Smoke tube Manufacturers of { Tubes Stewart & Lloyd's 2" Steel forgings S. S. Sonter & Sons 2" Steel castings Stephensons 2"

Number of elements 46 per boiler Material of tubes SD Steel cold finish Internal diameter and thickness of tubes 1 7/8" x 2 1/2"

Material of headers Steel Tensile strength 26/30 tons Thickness 1 7/16" Can the superheater be shut off and the boiler be worked separately Yes 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 1.76" @ 1 1/2" dia Stigf lift Are the safety valves fitted with easing gear Yes

Pressure to which the safety valves are adjusted 260 lbs Hydraulic test pressure: tubes 1200 lbs forgings and castings 750 lbs and after assembly in place 1000 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, FOR THE CENTRAL MARINE ENGINE WORKS,

(S.S. 6 Co. Ltd.)

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.)

GENERAL MANAGER.

Total No. of visits _____

Is this Boiler a duplicate of a previous case Yes If so, state Vessel's name and Report No. S.S. ISMAILA RPN 18096

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) These boilers have been constructed under special survey and in accordance with the approved plans for a working pressure of 250 lbs per square inch.

The materials and workmanship have been found good. Upon completion the boilers were tested in the presence of the undersigned by a hydraulic pressure of 425 lbs per square inch, showed no signs of weakness and were found sound and tight in every respect at that pressure.

Survey Fee ... £ : : When applied for, 19
Travelling Expenses (if any) £ : : When received, 19

Arthur W. Oxford
Engineer Surveyor to Lloyd's Register of Shipping.

TUE. 18 MAR

Committee's Minute

Assigned

See Hpl. J.C. 18121



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