

REPORT ON BOILERS.

22 MAY 1942

Received at London Office

Date of writing Report 19 When handed in at Local Office 18 May 1942 Port of **SUNDERLAND.**

No. in Reg. Book. Survey held at **SUNDERLAND.** Date, First Survey 14 May 1942 Last Survey 14 May 1942

on the **1/2" EMPIRE KEATS** (Number of Visits) Gross Tons **7035** Net Tons **4949**

Built at **Sunderland** By whom built **Short Bros. Ltd.** Yard No. **470** When built **1942**

Engines made at **do.** By whom made **N.E. Marine Eng. Co. (1938) Ltd** Engine No. **4015** When made **1942**

Boilers made at **do.** By whom made **do.** Boiler No. **do.** When made **do.**

Nominal Horse Power **510** Owners **M.O.W.T (Charlton, Healum Co.)** Port belonging to **Sunderland**

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

Manufacturers of Steel **Steele Co. of Scotland** (Letter for Record **3**)

Total Heating Surface of Boilers **7248 sq ft** Is forced draught fitted **yes** Coal or Oil fired **coal**

No. and Description of Boilers **3 S.E. cylindrical** Working Pressure **220 lbs.**

Tested by hydraulic pressure to **380 lbs.** Date of test **21.1.42** No. of Certificate **4403** 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 **2. Improved High Lift**

Area of each set of valves per boiler { per handle **6.5 sq in** as fitted **7.94 sq in** Pressure to which they are adjusted **220 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 **5'-0"** Is oil fuel carried in the double bottom under boilers **no**

Smallest distance between shell of boiler and tank top plating **25"** Is the bottom of the boiler insulated **yes**

Largest internal dia. of boilers **15'-0 1/16"** Length **11'-8 1/32"** Shell plates: Material **steel** Tensile strength **29/33**

Thickness **1 15/32"** Are the shell plates welded or flanged **no** Description of riveting: circ. seams { end **D.R.L.** inter. **—**

long. seams **T.R.D.B.S.** Diameter of rivet holes in { circ. seams **1 1/2"** long. seams **1 1/2"** Pitch of rivets { **4 1/8"** **10 3/8"**

Percentage of strength of circ. end seams { plate **63.6** rivets **46.1** Percentage of strength of circ. intermediate seam { plate **—** rivets **—**

Percentage of strength of longitudinal joint { plate **85.5** rivets **86.2** combined **88.3**

Thickness of butt straps { outer **1 1/8"** inner **1 1/4"** No. and Description of Furnaces in each Boiler **3 Slighton, Stephen-Gurley necks**

Material **steel** Tensile strength **26/30** Smallest outside diameter **3'-9 3/4"**

Length of plain part { top **—** bottom **—** Thickness of plates { crown **1 1/16"** bottom **1 1/16"** Description of longitudinal joint **weld**

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

End plates in steam space: Material **steel** Tensile strength **26/30** Thickness **1 13/32"** Pitch of stays **19 3/4" x 19 7/8"**

How are stays secured **double nuts**

Tube plates: Material { front **steel** back **steel** Tensile strength { **26/30** Thickness { **15 1/16"** **25 1/32"**

Mean pitch of stay tubes in nests **9 7/8"** Pitch across wide water spaces **14" x 8 1/4"**

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

at centre **10 1/2" x 13 1/8"** Length as per Rule **31 1/2"** Distance apart **9 1/4"** No. and pitch of stays

in each **3 x 8"** Combustion chamber plates: Material **steel**

Tensile strength **26/30** Thickness: Sides **1 1/16"** Back **1 1/16"** Top **1 1/16"** Bottom **7/8"**

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

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

Thickness **15 1/16"** Lower back plate: Material **steel** Tensile strength **26/30** Thickness **27 1/32"**

Pitch of stays at wide water space **14" x 8"** Are stays fitted with nuts or riveted over **nuts fitted**

Main stays: Material **steel** Tensile strength **28/32**

Diameter { At body of stay, **3 1/8"** or **3 1/2"** No. of threads per inch **6**

screw stays: Material **steel** Tensile strength **26/30**

Diameter { At turned off part, **1 3/4"** or **1 3/4"** No. of threads per inch **9**



Are the stays drilled at the outer ends no Margin stays: Diameter { At turned off part, 1 7/8" or Over threads

No. of threads per inch 9

Tubes: Material Steel External diameter { Plain 33" Stay Thickness { S.W.G. 3/8" x 5/16" No. of threads per inch 9

Pitch of tubes 4 1/4" x 4 1/8" 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 1/4" 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 _____ 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 yes

THE NORTH EASTERN MARINE ENGINEERING CO. (1938) LTD.
The foregoing is a correct description,
J. H. Smith Manufacturer.
RESIDENT MANAGER.

Dates of Survey { During progress of work in shops - - } Please see Rpt. 4 Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.)

{ During erection on board vessel - - - } Total No. of visits _____

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

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

Three boilers have been constructed under special survey in accordance with the approved plans, Secretary's letters & the requirements of the Rules. Workmanship & materials are good.

In recommendation please see Rpt 4.

Survey Fee £ Rpt 4 : : } When applied for, _____ 19

Travelling Expenses (if any) £ : : } When received, _____ 19

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned

See Std. No. 33398



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