

REPORT ON BOILERS.

No. 101367

Date of writing Report **22 JUN 1943** When handed in at Local Office **22 JUN 1943** Received at London Office

No. in Survey held at **Newcastle on Tyne** Date, First Survey **6th August, 1942** Last Survey **7th June 1943**

Reg. Book. **M.V. "NACELLA"** (Number of Visits **55**) Gross **8196.39** Tons Net **4774.25**

Built at **Newcastle (Walker)** By whom built **Swan, Hunter & Wigham Richardson Ld** Yard No. **1675** When built **1943-**

Engines made at **Glasgow** By whom made **Harland & Wolff Ld** Engine No. **G.O.8458/2** When made **1943**

Boilers made at **Newcastle (Walker)** By whom made **Swan, Hunter & Wigham Richardson Ld** Boiler No. **1734** When made **1943**

Nominal Horse Power **278** Owners **Anglo-Saxon Petroleum Co. Ld.** Port belonging to **London**

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

Manufacturers of Steel **The Steel Company of Scotland Ld** (Letter for Record **S.**)

Total Heating Surface of Boilers **4170 sq ft** Is forced draught fitted **Yes** Coal or Oil fired **oil fired or**

No. and Description of Boilers **Two Single Ended.** Working Pressure **180 lbs/sq in**

Tested by hydraulic pressure to **320 lbs** Date of test **19/2/43** No. of Certificate **1035** Can each boiler be worked separately **Yes**

Area of Firegrate in each Boiler **✓** No. and Description of safety valves to each boiler **Two 2 1/2" Gekburns Ship's High Lift**

Area of each set of valves per boiler **per Rule 8.0 sq ins** Pressure to which they are adjusted **180 lbs** Are they fitted with easing gear **Yes**

In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler **No main Boilers**

Smallest distance between boilers or uptakes and bunkers or woodwork **✓** Is oil fuel carried in the double bottom under boilers **No**

Smallest distance between shell of boiler and tank top plating **Boilers on dk. flat in E.R.** Is the bottom of the boiler insulated **Yes**

Largest internal dia. of boilers **13'-0"** Length **12'-3" mean** Shell plates: Material **Stl** Tensile strength **30-34 tons**

Thickness **1 1/4"** Are the shell plates welded or flanged **No** Description of riveting: circ. seams **DR. overlap** end **None**

long. seams **T.R. Dble butt straps** Diameter of rivet holes in **1 3/32"** Pitch of rivets **3.332**

Percentage of strength of circ. end seams **plate 67.17** rivets **42.56** Percentage of strength of circ. intermediate seam **plate 85.53** rivets **87.91** combined **88.64**

Percentage of strength of longitudinal joint **plate 85.53** rivets **87.91** combined **88.64**

Thickness of butt straps **outer 25/32** inner **29/32** No. and Description of Furnaces in each Boiler **Two Morrison Type**

Material **Steel** Tensile strength **26 to 30 tons** Smallest outside diameter **3'-8 7/8"**

Length of plain part **top** Thickness of plates **crown 9/16"** Description of longitudinal joint **fire weld.**

Dimensions of stiffening rings on furnace or c.c. bottom **None**

End plates in steam space: Material **Steel** Tensile strength **26 to 30 tons** Thickness **1 1/16"** Pitch of stays **17" x 16 3/4"**

How are stays secured **Nuts inside & outside, Stays screwed into both end plates.**

Tube plates: Material **front Steel** back **Steel** Tensile strength **26 to 30 tons** Thickness **31/32**

Mean pitch of stay tubes in nests **9 7/8"** Pitch across wide water spaces **13 3/4"**

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

at centre **10 1/8" x 13/16" x two** Length as per Rule **37 1/2"** Distance apart **10" max.** No. and pitch of stays

in each **3 @ 8 3/4"** Combustion chamber plates: Material **Stl.**

Tensile strength **26 to 30 tons** Thickness: Sides **3/4"** Back **3/4"** Top **3/4"** Bottom **1"**

Pitch of stays to ditto: Sides **8 3/4" x 6 7/8"** Back **8 1/4" x 8"** Top **8 3/4" x 10"** Are stays fitted with nuts or riveted over **nuts on C.C. marginal stays. Rivets on C.C. Top stays.**

Front plate at bottom: Material **Stl.** Tensile strength **26 to 30 tons** Thickness **31/32**

Lower back plate: Material **Stl.** Tensile strength **26 to 30 tons** Thickness **31/32**

Pitch of stays at wide water space **13 3/4"** Are stays fitted with nuts or riveted over **with nuts**

Main stays: Material **Stl.** Tensile strength **28 to 32 tons**

Diameter **At body of stay, 2 7/8"** No. of threads per inch **6.**

Screw stays: Material **Stl.** Tensile strength **26 to 30 tons**

Diameter **At turned off part, 1 1/2"** No. of threads per inch **9.**

Are the stays drilled at the outer ends No

No. of threads per inch 9

Margin stays: Diameter 1 3/4" + 1/8"

Tubes: Material W.I. lap welded External diameter 2 3/4" Thickness 9/16" No. of threads per inch 9

Pitch of tubes 4" x 3 7/8"

Manhole compensation: Size of opening in shell plate 20" x 16" Section of compensating ring 16 1/16" x 1 1/2" plus flanging No. of rivets and diameter of rivet holes 38 of 1 5/16" dia

Outer row rivet pitch at ends 9 1/8" Depth of flange if manhole flanged 2 3/4" Steam Dome: None

Tensile strength _____ Thickness of shell _____ Description of longitudinal joint _____

Diameter of rivet holes _____ Pitch of rivets _____ Percentage of strength of joint Plate

Internal diameter _____ Thickness of crown _____ Rivets _____

stays _____ Inner radius of crown _____ No. and diameter of

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 None

Manufacturers of Tubes

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 _____

valves fitted to free the superheater from water where necessary _____ Are drain cocks or

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

The foregoing is a correct description, FOR SWAN, HARTLEY & WILKINSON MANCHESTER Manufacturer.

Dates of Survey During progress of work in shops - -

while building During erection on board vessel - - - See Machinery Reports

Are the approved plans of boiler and superheater forwarded herewith 20/11/41 (If not state date of approval.)

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 two Donkey Boilers have been constructed under Special Survey in accordance with the approved plans and the Society's Rules, and the materials and workmanship are good. The Boilers have been efficiently fitted on board the Vessel, tested under steam under working conditions and found satisfactory. See also machy Rpt 46.

Survey Fee ... £ See: machy Rpt When applied for, 19

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

A. Watt
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 16 JUL 1943

Assigned see minute on NWC 26. machy Rpt