

REPORT ON BOILERS.

No. 100736

Received at London Office 28 SEP 1942

Date of writing Report 19 19 When handed in at Local Office 19 42. Port of NEWCASTLE-ON-TYNE

No. in Reg. Book Survey held at Newcastle on Tyne Date, First Survey 1.7.42 Last Survey 1.9.1942

on the M.V. "NUCULANA" (Number of Visits —) Tons {Gross 8179
Net 4767

Master — Built at Newcastle (Hoburn) By whom built R.W. Hawthorn, Leeds No. 649 When built 1942

Engines made at Newcastle (St Peters) By whom made ditto Engine No. 3977 When made 1942

Boilers made at " By whom made ditto Boiler No. 3977 When made 1942

Nominal Horse Power 233 Owners Anglo-Saxon Petroleum Co. Ltd Port belonging to London

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

Manufacturers of Steel Colvilles Ld (Letter for Record S.)

Total Heating Surface of Boilers 3500 sq. ft. Is forced draught fitted Yes Coal or Oil fired oil fired

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

Tested by hydraulic pressure to 320 lbs/sq. in. Date of test 20/5/42 No. of Certificate 976 Can each boiler be worked separately Yes

Area of Firegrate in each Boiler — No. and Description of safety valves to each boiler Two of 4" dia Spring Loaded.

Area of each set of valves per boiler {per Rule 22.44 sq. ins.
as fitted 25.12 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 —

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 turn deck plating 3'-4 1/2" The Boiler is fitted on Deck flat in E.R.
Is the bottom of the boiler insulated Yes.

Largest internal dia. of boilers 16'-0 3/8" Length 12'-6" mean Shell plates: Material Stl. Tensile strength 28-32 tons/sq. in.

Thickness 15/16" Are the shell plates welded or flanged No. Description of riveting: circ. seams {end DR overlap.
inter. none

long. seams T.R. Dbl. butt straps Diameter of rivet holes in {circ. seams } 13/8" Pitch of rivets { 3.95"
long. seams } 9 3/8"

Percentage of strength of circ. end seams {plate 65.2
rivets 47.1 Percentage of strength of circ. intermediate seam {plate NONE.
rivets

Percentage of strength of longitudinal joint {plate 85.3
rivets 93. Working pressure of shell by Rules 180.6 lbs.
combined 89.3.

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

Material S. Tensile strength 26-30 tons Smallest outside diameter 4'-0 1/4"

Length of plain part {top —
bottom — Thickness of plates {crown 5/8"
bottom Description of longitudinal joint Fire welded

Dimensions of stiffening rings on furnace or c.c. bottom None Working pressure of furnace by Rules 189 lbs.

End plates in steam space: Material S. Tensile strength 26 to 30 tons Thickness 1 1/2" Pitch of stays 22" x 20 3/4" max.

How are stays secured Nuts inside + outside Working pressure by Rules 185 lbs. min.

Tube plates: Material {front S.
back Tensile strength { 26 to 30 tons Thickness { 1 13/16"

Mean pitch of stay tubes in nests 9 7/8" Pitch across wide water spaces 13 3/4" x 7 3/4" Working pressure {front 200 lbs
back 243 lbs.

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

at centre 10 3/4" x 3 1/4" x two Length as per Rule 37 1/2" - 1/4" Distance apart 10 1/2" No. and pitch of stays

in each 3 @ 8 3/4" Working pressure by Rules 182.5 lbs. Combustion chamber plates: Material S.

Tensile strength 26 to 30 tons Thickness: Sides 45/64" Back 45/64" Top 45/64" Bottom 1"

Pitch of stays to ditto: Sides 8 3/4" x 7" Back 8 1/4" x 7 1/8" Top 10 1/2" x 8 3/4" Are stays fitted with nuts or riveted over Nuts on top + back marginal stays. Remainder are riveted over.

Working pressure by Rules 182 lbs. min. Front plate at bottom: Material S. Tensile strength 26 to 30 tons

Thickness 1" Lower back plate: Material S. Tensile strength 26 to 30 tons Thickness 27/32.

Pitch of stays at wide water space 15" x 8 1/4" Are stays fitted with nuts or riveted over Fitted with nuts.

Working Pressure 198 Main stays: Material S. Tensile strength 28-32 tons

Diameter {At body of stay, 3/4"
or Over threads No. of threads per inch 6. Area supported by each stay 450 sq. ins. max.

Working pressure by Rules 206 lbs. Screw stays: Material S. Tensile strength 26 to 30 tons

Diameter {At turned off part, 1 1/2" + 1 3/4"
or Over threads No. of threads per inch 9. Area supported by each stay 92 sq. ins. for 1 3/4" dia
63.5" x 1 5/8" dia

Boilers Register
Foundation
Contd P.T.O.

Working pressure by Rules 197 lb Are the stays drilled at the outer ends No Margin stays: Diameter 1 3/4"
 No. of threads per inch 9 Area supported by each stay 93.5 sq in Working pressure by Rules 194 lb
 Tubes: Material W.I. Lap welded External diameter 2 3/4" Thickness 9.45 No. of threads per inch 9
 Pitch of tubes 4" x 3 7/8" vert. Working pressure by Rules 214 lb min. Manhole compensation: Size of opening in
 shell plate 21" x 17" Section of compensating ring 25" x 1 5/8" No. of rivets and diameter of rivet holes 36 7/16 dia
 Outer row rivet pitch at ends 10" Depth of flange if manhole flanged 4 1/2" 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
 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 None 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 casing gear _____ Working pressure as per
 Rules _____ 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 foregoing is a correct description
P. B. Johnson 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 17/1/41
 (If not state date of approval.)
 Total No. of visits _____
 See machy Rpt. 4b.

Is this Boiler a duplicate of a previous case Yes If so, state Vessel's name and Report No. NICANIA
See Rpt 20 100491

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)
This Donkey Boiler has been constructed under Special Survey in accordance with the approved plans and the Society's Rules and the materials and workmanship are good

| | | | |
|------------------------------|---|-------------------|----|
| Survey Fee | £ | When applied for, | 10 |
| Travelling Expenses (if any) | £ | When received, | 10 |

See machy Rpt 4b.

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

Committee's Minute FRI. 2 OCT 1942
 Assigned See Navc. 78. 100736

