pt. 5a.

REPORT ON BOILERS.

No. 71816

Received at London Office 27 JUN 1947

te of writing Report 16.6.1947 When handed in at Local Office 24.6.1947 Port of Glasgow.

No. in g. Book. Survey held at Glasgow. Date, First Survey 4.3.46 Last Survey 5.6.1947

2040 on the Tw. Sc. M/V. SANGOLA (Number of Visits 62) Tons Gross 8730. Net 5053

aster ✓ Built at Glasgow By whom built Barclay, Curle & Co. Ltd. Yard No. 707 When built 1947

ngines made at Glasgow. By whom made Barclay, Curle & Co. Ltd. Engine No. 707 When made 1947

oilers made at Glasgow. By whom made Barclay, Curle & Co. Ltd. Boiler No. 707 When made 1947

ominal Horse Power Owner British India Steam Nav. Co. Port belonging to London.

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

anufacturers of Steel Colvilles Ltd. (Letter for Record S ✓)

otal Heating Surface of Boilers 2630 - O.F. 1562 - Ex. Gas } 4192 sq ft Total s forced draught fitted Yes. ~~Coal or~~ Oil fired Oil Fuel.

o. and Description of Boilers 1 Horizontal Return Tube Typ. **Working Pressure** 220 lbs.

ested by hydraulic pressure to 230 lbs Date of test 6.2.47 No. of Certificate 22346. Can each boiler be worked separately ✓

rea of Firegrate in each Boiler ✓ No. and Description of safety valves to each boiler 3¼" Dbl. L.H.L.

rea of each set of valves per boiler { per Rule 12.175 sq in / as fitted 16.58 sq in ✓ } Pressure to which they are adjusted 220 lb. Are they fitted with easing gear Yes.

In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler ✓

mallest distance between boilers or uptakes and bunkers or woodwork Is oil fuel carried in the double bottom under boilers

mallest distance between shell of boiler and tank top plating Is the bottom of the boiler insulated ✓

argest internal dia. of boilers 16'-6" ✓ Length 11'-9" ✓ **Shell plates:** Material Steel Tensile strength 29/33 T.

hickness 29/32" ✓ Are the shell plates welded or flanged No. ✓ Description of riveting: circ. seams { end Dbl. ✓ / inter. ✓ }

ng. seams Dbl. ✓ with inner row welded. Diameter of rivet holes in { circ. seams / / long. seams / / } Pitch of rivets { 3.219" ✓ / 6 7/16" ✓ }

Percentage of strength of circ. end seams { plate 69.5 / rivets 42.5 } Percentage of strength of circ. intermediate seam { plate / rivets ✓ }

Percentage of strength of longitudinal joint { plate 85.6 / rivets 94.0 / combined 89.7. } Working pressure of shell by Rules 133 lbs.

hickness of butt straps { outer 11/16 ✓ / inner 13/16 ✓ } **No. and Description of Furnaces in each Boiler** 3 Deighton Suction. ✓

Material Steel. Tensile strength 26/30 T. ✓ Smallest outside diameter 41 1/4" ✓

ength of plain part { top 9 3/4" / bottom 9 3/4" } Thickness of plates { crown 3/8" ✓ / bottom 3/8" ✓ } Description of longitudinal joint Welded. ✓

imensions of stiffening rings on furnace or c.c. bottom ✓ Working pressure of furnace by Rules 128 lbs. ✓

nd plates in steam space: Material Steel. Tensile strength 26/30 T. ✓ Thickness 1 1/16" ✓ Pitch of stays 18" ✓ × 23" ✓

ow are stays secured Nuts Lock Bars. ✓ Working pressure by Rules 133 lbs.

ube plates: Material { front Steel. / back Steel. } Tensile strength { 26/30 T. ✓ / 26/30 T. ✓ } Thickness { 11/16" ✓ / 11/16" ✓ }

lean pitch of stay tubes in nests 9.7" Pitch across wide water spaces 13½" ✓ Working pressure { front 133 lbs / back 122 lbs. }

irders to combustion chamber tops: Material Steel ✓ Tensile strength 28/32 T. ✓ Depth and thickness of girder

No. 2 @ 8½" ✓ × 11/16" ✓ Length as per Rule 34.7" ✓ Distance apart 8½" ✓ to 10½" ✓ No. and pitch of stays

n each 2 @ 11" ✓ Working pressure by Rules 136 lbs. **Combustion chamber plates:** Material Steel. ✓

ensile strength 26/30 T. ✓ Thickness: Sides 21/32 ✓ Back 19/32 ✓ Top 21/32" ✓ Bottom 21/32" ✓

itch of stays to ditto: Sides 11¼" × 11". Back 10" × 10" ✓ Top 10½" × 11" ✓ Are stays fitted with nuts or riveted over Nuts. ✓

Working pressure by Rules 120 lbs. ✓ **Front plate at bottom:** Material Steel. ✓ Tensile strength 26/30 T. ✓

hickness 11/16" ✓ **Lower back plate:** Material Steel. ✓ Tensile strength 26/30 T. ✓ Thickness 21/32" ✓

itch of stays at wide water space 13½" ✓ Are stays fitted with nuts or riveted over Nuts. ✓

Working Pressure 138 lbs. ✓ **Main stays:** Material Steel. ✓ Tensile strength 28/32 T. ✓

iameter { At body of stay, or Over threads 2 5/8" ✓ / 3" ✓ } No. of threads per inch 6. ✓ Area supported by each stay 18" ✓ × 23" ✓

Working pressure by Rules 143 lbs. ✓ **Screw stays:** Material Steel. ✓ Tensile strength 26/30 T. ✓

iameter { At turned off part, or Over threads ✓ / 1 3/4" ✓ / 1 5/8" ✓ / 1½" ✓ } No. of threads per inch 9. ✓ Area supported by each stay 10" ✓ × 10" ✓

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Eur 31/7/47

Working pressure by Rules 125 lbs. *Are the stays drilled at the outer ends* Yes ✓ *Margin stays: Diameter* {*At turned off part,* ✓ / *or Over threads* 1¾" / 1⅞"

No. of threads per inch 9. ✓ *Area supported by each stay* 11 3/4" × 10" *Working pressure by Rules* 129 lbs.

Tubes: *Material* Steel ✓ *External diameter* {*Plain* 2½" & 1¾" *Stay* 2½" & 1½" SOLID *Thickness* {11 & 11 S.G. / ¼" & 5/16" ✓ *No. of threads per inch* 9. ✓

Pitch of tubes 3¾" & 2⅞" & 2¾" *Working pressure by Rules* 121 lbs. **Manhole compensation:** *Size of opening* ✓

shell plate 20" × 16" on flat (L. × 12") *Section of compensating ring* 2 9/32" × 23" *No. of rivets and diameter of rivet holes* 40 @ 1⅛" ✓

Outer row rivet pitch at ends 7½ ✓ *Depth of flange if manhole flanged* 3¼" **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 ✓ *Working pressure by Rules* ✓ *Thickness of crown* ✓ *No. and diameter*

stays ✓ *Inner radius of crown* ✓ *Working pressure by Rules* ✓

How connected to shell ✓ *Size of doubling plate under dome* ✓ *Diameter of rivet holes and pi*

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*

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* ✓ *Working pressure as*

Rules ✓ *Pressure to which the safety valves are adjusted* ✓ *Hydraulic test pressu*

tubes ✓ *forgings and castings* ✓ *and after assembly in place* ✓ *Are drain cocks*

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. ✓

BARCLAY, CURLE & CO. North British Engine Works 23 JUN 1947 GLASGOW

The foregoing is a correct description,

A. Macneill. *Manufacturer*

Dates of Survey while building {*During progress of work in shops* - - / *During erection on board vessel* - - -} See attached machinery report

Are the approved plans of boiler and superheater forwarded herewith ✓ (If not state date of approval.)

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.*)

This Boiler has been constructed under Special Survey, in accordance with the approved plans, & the materials & workmanship are good.

The Boiler has been satisfactorily installed in the vessel, examined under steam & the safety valves adjusted under steam to the working pressure of 120 lbs/sq.in

£39-14-0

Survey Fee £34:19:0

Travelling Expenses (if any) £ : ✓ :

When applied for, 26 JUN 1947 19

When received, 19

ML-D

Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute GLASGOW 24 JUN 1947

Assigned SEE ACCOMPANYING MACHINERY REPORT