

Date of writing Report *10 MAR 1928* Received at London Office *10 MAR 1928*
When handed in at Local Office *8 MAR 1928* Port of *Sunderland*
No. in Survey held at *Sunderland* Date, First Survey *✓* Last Survey *Mch 8 1928*
Reg. Book. *S.S. "ST THERESE"* (Number of Visits *✓*) Gross Tons *2280*
on the *S.S. "ST THERESE"* Net Tons *1354*
Master *✓* Built at *Sunderland* By whom built *Swan Hunter* Yard No. *1327* When built *1928*
Engines made at *Sunderland* By whom made *George Rank Ltd.* Engine No. *1157* When made *1928*
Boilers made at *do* By whom made *do* Boiler No. *1157* When made *1928*
Nominal Horse Power *224* Owners *Jens Lund & Co* Port belonging to *Trinidad*

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel *Vereinigte Stahlwerke Boender Verein* (Letter for Record *5* ✓)
Total Heating Surface of Boilers *3614 sq ft* Is forced draught fitted *No* ✓ Coal or Oil fired *Coal* ✓
No. and Description of Boilers *Two 8 ft Multitubular Single ended. 2 SD.* Working Pressure *180 lbs* ✓
Tested by hydraulic pressure to *320 lbs* Date of test *6/12/27* No. of Certificate *3969* Can each boiler be worked separately *Yes* ✓
Area of Firegrate in each Boiler *55.5 sq ft* No. and Description of safety valves to each boiler *Two spring loaded.* ✓
Area of each set of valves per boiler *per Rule 11.8 sq ft* as fitted *11.87 sq ft* Pressure to which they are adjusted *185 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* ✓
Smallest distance between boilers or uptakes and bunkers or woodwork *2'-0"* Is oil fuel carried in the double bottom under boilers *No* ✓
Smallest distance between shell of boiler and tank top plating *1'-9"* Is the bottom of the boiler insulated *No* ✓
Largest internal dia. of boilers *14'-0 1/8"* Length *10'-6"* Shell plates: Material *STEEL* Tensile strength *28 TO 32 TONS* ✓
Thickness *1 1/2"* Are the shell plates welded or flanged *No* ✓ Description of riveting: circ. seams *end DRL* ✓
Long. seams *TR DBS.* Diameter of rivet holes in *circ. seams 1 3/16"* Pitch of rivets *3 7/16" 8 3/8"* ✓
Percentage of strength of circ. end seams *plate 65.6%* rivets *45.6%* Percentage of strength of circ. intermediate seam *plate 85.82%* rivets *87.7%* ✓
Percentage of strength of longitudinal joint *combined 89.7%* Working pressure of shell by Rules *181 lbs* ✓
Thickness of butt straps *outer 7/8"* inner *1"* No. and Description of Furnaces in each Boiler *3 TIGHTONS.* ✓
Material *STEEL* Tensile strength *26 TO 30 TONS* ✓ Smallest outside diameter *3'-5 5/8"* ✓
Length of plain part *top 1'* bottom *1'* Thickness of plates *crown 3 1/2"* Description of longitudinal joint *WELDED* ✓
Dimensions of stiffening rings on furnace or c.c. bottom *✓* Working pressure of furnace by Rules *185 lbs* ✓
End plates in steam space: Material *STEEL* Tensile strength *26 TO 30 TONS* Thickness *1 1/4"* Pitch of stays *22" x 18"* ✓
How are stays secured *DN & W.* Working pressure by Rules *180 lbs* ✓
End plates: Material *front STEEL* back *do* Tensile strength *26 TO 30 TONS* Thickness *1 3/4"* ✓
Can pitch of stay tubes in nests *10 1/4"* Pitch across wide water spaces *14 1/4" x 8 3/4"* Working pressure *front 226 lbs* back *191 lbs* ✓
Orders to combustion chamber tops: Material *STEEL* Tensile strength *28 TO 32 TONS* Depth and thickness of girder *✓*
Centre *7 1/2" x 1 3/4"* Length as per Rule *32"* Distance apart *9"* No. and pitch of stays *✓*
Each *2 @ 10"* Working pressure by Rules *184 lbs* ✓ Combustion chamber plates: Material *STEEL* ✓
Tensile strength *26 TO 30 TONS* Thickness: Sides *2 3/32"* Back *4 1/8"* Top *2 3/32"* Bottom *2 3/32"* ✓
Pitch of stays to ditto: Sides *10" x 9 1/2"* Back *9 3/4" x 9"* Top *10" x 9"* Are stays fitted with nuts or riveted over *NUTS.* ✓
Working pressure by Rules *BACK C, 185 lbs* Front plate at bottom: Material *STEEL* Tensile strength *26 TO 30 TONS* ✓
Thickness *1 3/8"* Lower back plate: Material *STEEL* Tensile strength *26 TO 30 TONS* Thickness *1 1/8"* ✓
Pitch of stays at wide water space *16" x 9 3/4"* Are stays fitted with nuts or riveted over *NUTS.* ✓
Working Pressure *203 lbs* Main stays: Material *STEEL* Tensile strength *28 TO 32 TONS* ✓
Grip diameter *At body of stay, 2 3/4"* or *2 7/8"* No. of threads per inch *6* ✓ Area supported by each stay *380 sq in* ✓
Working pressure by Rules *188 lbs* ✓ Screw stays: Material *STEEL* Tensile strength *26 TO 30 TONS* ✓
Grip diameter *At turned off part, 1 3/4"* or *1 3/4"* No. of threads per inch *9* ✓ Area supported by each stay *95 lbs sq in* ✓

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Working pressure by Rules ¹⁹¹⁵ 1915 Are the stays drilled at the outer ends *No* Margin stays: Diameter { At turned off part, *1 7/8"* or Over threads *1 7/8"*

No. of threads per inch *9* Area supported by each stay *1170* Working pressure by Rules *183 LBS.*

Tubes: Material *STEEL* External diameter { Plain *3 1/4"* Stay *3 1/4"* Thickness { *8 W.G.* *1/4"* *5/16"* *3/8"* No. of threads per inch *9*

Pitch of tubes *4 3/8" x 4 1/2"* Working pressure by Rules *230 LBS.* Manhole compensation: Size of opening in 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 *3 7/8"* 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 *-* 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 *-* Manufacturers of { Tubes *-* 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 *-* Working pressure as per Rules *-*

Pressure to which the safety valves are adjusted *-* Hydraulic test pressure: tubes *-* 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 23 inclusive for boilers been complied with *Yes.*

The foregoing is a correct description,
FOR GEORGE CLARK LIMITED. *W. G. M. M. S.* Manufacturer.

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

while building { During erection on board vessel - - - Total No. of visits

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) *These boilers have been built under Special Survey & the materials & workmanship are good on completion they were satisfactorily fitted in the vessel & the safety valves adjusted under steam. For notation see machinery report.*

Survey Fee ... £ : : When applied for, 192

Travelling Expenses (if any) £ : : When received, 192

Harbottle.
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute *TUES. 13 MAR 1922*

Assigned *See other Std. Rpt. 29666*