

REPORT ON BOILERS.

No. 1341 a.

Received at London Office 28 MAR 1931

Date of writing Report 25th March 31 When handed in at Local Office 10 Port of Bremen

No. in Reg. Book 91067 Survey held at Emden Date, First Survey 15th Jan. Last Survey 19th March 1931

on the STEEL TWIN SC "J.H. SENIOR" (Number of Visits 5) Gross Tons 11900 Net

Built at Emden By whom built Verein Stahl Nordrueweke Yard No. 173 When built 1930/31

made at Kiel By whom made Fried. Krupp - Germania Werke Engine No. 3886 When made 1930

made at Hamburg By whom made Deutsche Werke Boiler No. 450/51 When made 1930

Kalisch - Americ. Petroleum Import G.m.b.H. Port belonging to Danzig.

Tachant gas fired TICAL/DONKEY BOILER. combined with Lilmer & Sparks Arristor.

at Hamburg By whom made Deutsche Werke A.G. Boiler No. 450/51 When made 1930 Where fixed Top part of engine space

Manufacturers of Steel Gutbrod & Co. A.G. Oberhausen. Tubes: Vereinigte Stahlwerke, Grunndorf

Heating Surface of Boiler 60 m² each Is forced draught fitted No Coal or Oil fired Tachant gas

Description of Boilers 2 vertical combined with Lilmer & Sparks Arristor Working pressure 100 lbs.

Tested by hydraulic pressure to 200 lbs. Date of test 23rd Oct. 1930 No. of Certificate 527/28

Number of Firegrate in each Boiler 2 No. and Description of safety valves to each boiler 2 springs loaded.

Number of valves per boiler 2 per rule Tachant gas fired Pressure to which they are adjusted 100 lbs. Are they fitted with easing gear Yes

Whether steam from main boilers can enter the donkey boiler Yes Smallest distance between boiler or uptake and bunkers

Is oil fuel carried in the double bottom under boiler Yes Smallest distance between base of boiler and tank top plating

Is the base of the boiler insulated Yes Largest internal dia. of boiler 1600 mm Height 696 mm

Material plates: Material Limmer Martin Steel Tensile strength 41-47 kg/mm² Thickness 11 mm.

Are the shell plates welded or flanged flanged Description of riveting: circ. seams Top single row Bottom single row long. seams Lap joint double

Number of rivet holes in circ. seams 23 mm Pitch of rivets 66.6-68.3 mm Percentage of strength of circ. seams plate 65-66.5% rivets 49.7-48.9% Longitudinal joint plate 67.2% rivets 94.7% combined 81.6%

Working pressure of shell by rules 7.98 kg/cm² Thickness of butt straps outer inner

Shell Crown: Whether complete hemisphere, dished partial spherical, or flat Yes Material Limmer Martin Steel

Tensile strength 41-47 kg/mm² Thickness 15 mm Radius 1600 mm Working pressure by rules 7.9 kg/cm²

Description of Furnace: Plain, spherical, or dished crown Yes Material Yes Tensile strength Yes

Thickness Yes External diameter top bottom Length as per rule Yes Working pressure by rules Yes

Attachment of support stays circumferentially Yes and vertically Yes Are stays fitted with nuts or riveted over Yes

Diameter of stays over thread Yes Radius of spherical or dished furnace crown Yes Working pressure by rule Yes

Thickness of Ogee Ring Yes Diameter as per rule D a Working pressure by rule Yes

Combustion Chamber: Material Yes Tensile strength Yes Thickness of top plate Yes

Radius if dished Yes Working pressure by rule Yes Thickness of back plate Yes Diameter if circular Yes

Length as per rule Yes Pitch of stays Yes Are stays fitted with nuts or riveted over Yes

Diameter of stays over thread Yes Working pressure of back plate by rules Yes

Tube Plates: Material front back Tensile strength 41-47 kg/mm² Thickness 30 mm Mean pitch of stay tubes in nests varying

If comprising shell, Dia. as per rule front back Pitch in outer vertical rows Dia. of tube holes FRONT stay plain 63.5 mm BACK stay plain

Is each alternate tube in outer vertical rows a stay tube Yes Working pressure by rules front back as approved

Girders to combustion chamber tops: Material Yes Tensile strength Yes

Depth and thickness of girder at centre Yes Length as per rule Yes

Distance apart Yes No. and pitch of stays in each Yes Working pressure by rule Yes



Crown stays: Material Tensile strength Diameter { at body of stay, or over threads

No. of threads per inch Area supported by each stay Working pressure by rules

Screw stays: Material Tensile strength Diameter { at turned off part, or over threads No. of threads per inch

Area supported by each stay Working pressure by rules Are the stays drilled at the outer ends

Tubes: Material *Solid drawn I.M. steel* External diameter { plain *63.5 mm.* Thickness { *4 mm.* or *Lantern 24 mm.* Thickness { *2 mm.*

No. of threads per inch Pitch of tubes *Section 33/4 F = 390* Working pressure by rules *13.5 kg/cm²*

Manhole Compensation: Size of opening in shell plate *300 x 400 mm* Section of compensating ring *11 x 150 mm* No. of rivets and diameter of rivet holes *24 x 23 mm. ∅* Outer row rivet pitch at ends *130 mm.* Depth of flange if manhole flanged

Uptake: External diameter *630 mm.* Thickness of uptake plate *15 mm.*

Cross Tubes: No. External diameters { Thickness of plates

Have all the requirements of Sections 14 to 23 inclusive for boilers been complied with *Yes*

The foregoing is a correct description,

J. W. ... (signed) Manufacturer

Is the approved plan of boiler forwarded herewith and (If not state date of approval.)

Dates of Survey { During progress of work in shops - - } Total No. of visits *5*

while building { During erection on board vessel - - } *1931: Jan 15, 29, Feb 26, March 12, 19*

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

Three exhaust gas fired boilers are constructed under special survey in accordance with the Society's Rules, the approved plan and the Secretary's instructions thereto (please see Hamburg Surveyor Report No. 19582.)

They have been satisfactorily fitted on board examined under steam found tight and their safety valves have been adjusted to 100 lbs. pressure. They are eligible in my opinion to be classed in the Society's Register Book with record of "100 lbs."

Thickness of adjusting washers:

	Port Boiler	Starboard Boiler
port	11 mm.	11 1/2 mm.
starboard	10 1/2 mm.	10 1/2 mm.

Survey Fee ... *15* £ 1 : 14 : } When applied for, *26.3.* 19*31*

Travelling Expenses (if any) £ 1 : 0 : } When received, *8.4.* 19*31*

AML

G. H. C. Kamo

Committee's Minute *TUE, 5 MAY 1931*

Assigned *See F. E. Rep.*

