

## REPORT ON BOILERS.

No. 15461

Received at London Office 5 AUG 1949

of writing Report 29<sup>th</sup> May 49 When handed in at Local Office 218 1949 Port of ANTWERP

Survey held at SERAINC & ANTWERP Date, First Survey 11-2-47 Last Survey 5-5-1949

(Number of Visits 30) Gross 2702 Tons Net 4969

150 on the m/v BELGIAN PRIDE

Built at Hoboken By whom built D. A. Jhn Cockrell Yard No. 694 When built 1949

Engines made at Deraing By whom made D. A. Jhn. Cockrell Engine No. 6249 When made 1949

Boilers made at Deraing By whom made D. A. Jhn. Cockrell Boiler No. 17233 D When made 1949

Indicated Horse Power 1028 Owners Belgian Gulf Oil Comp. Port belonging to Antwerp.

## MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

Fabrique de Fer de Charleroi  
D. A. Jhn. Cockrell  
Manufacturers of Steel  
al Heating Surface of Boilers 181 m<sup>2</sup> per boiler Is forced draught fitted Yes Coal or Oil fired oil fired

and Description of Boilers Two cylindrical multitubular donkey boilers Working Pressure 12 kg/cm<sup>2</sup>

Tested by hydraulic pressure to 22 kg/cm<sup>2</sup> Date of test 8-2-49 No. of Certificate Can each boiler be worked separately Yes

Area of Firegrate in each Boiler No. and Description of safety valves to each boiler Two improved high lift (Schaeffer) Pressure to which they are adjusted 12 kg/cm<sup>2</sup> Are they fitted with easing gear Yes

Area of each set of valves per boiler per Rule 4223 mm<sup>2</sup> as fitted 3927 mm<sup>2</sup> accumulation test O.K.

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 none Is oil fuel carried in the double bottom under boilers no

Smallest distance between shell of boiler and deck top plating 450 Is the bottom of the boiler insulated Yes

Smallest internal dia. of boilers 3750 mm Length 2280 mm Shell plates: Material S.M. steel Tensile strength 41/47 kg/mm<sup>2</sup>

Thickness 25 mm Are the shell plates welded or flanged no Description of riveting: circ. seams end double lap joint inter. 89 mm Pitch of rivets 186.6 mm

Seams triple riveted double butt strap Diameter of rivet holes in circ. seams 22 mm long. seams 22 mm Percentage of strength of circ. end seams plate 64 rivets 26.5 Percentage of strength of circ. intermediate seam plate 82 rivets 12.7 Working pressure of shell by Rules 11.7 kg/cm<sup>2</sup>

Percentage of strength of longitudinal joint rivets 12.7 combined 91.2

Thickness of butt straps outer 20 inner 22 No. and Description of Furnaces in each Boiler Two for type

Material S.M. steel Tensile strength 41/47 kg/mm<sup>2</sup> Smallest outside diameter 920 mm

Length of plain part top 320 mm bottom 350 mm Thickness of plates crown 15 mm bottom 15 mm Description of longitudinal joint forged welded

Dimensions of stiffening rings on furnace or c.c. bottom none Working pressure of furnace by Rules 16.4 kg/cm<sup>2</sup>

plates in steam space: Material S.M. steel Tensile strength 41/47 kg/mm<sup>2</sup> Thickness 26 mm Pitch of stays 450-410 mm

Are stays secured Main stays with nuts & washers riveted to plating 41/47 kg/mm<sup>2</sup> Working pressure by Rules 15 kg/cm<sup>2</sup>

Side plates: Material front S.M. steel back S.M. steel Tensile strength 41/47 kg/mm<sup>2</sup> Thickness 26 mm

Pitch of stay tubes in nests 202 mm Pitch across wide water spaces 410 mm Working pressure front 14 kg/cm<sup>2</sup> back 4.6 kg/cm<sup>2</sup>

Boilers to combustion chamber tops: Material S.M. steel Tensile strength 41/47 kg/mm<sup>2</sup> Depth and thickness of girder 150 mm x 2 Length as per Rule 610 mm Distance apart 223 mm No. and pitch of stays

Working pressure by Rules 12 kg/cm<sup>2</sup> Combustion chamber plates: Material S.M. steel

Tensile strength 41/47 kg/mm<sup>2</sup> Thickness: Sides 17 mm Back 17 mm Top 17 mm Bottom 25 mm

of stays to ditto: Sides 200-166 Back 181-185 Top 200-223 Are stays fitted with nuts or riveted over fitted with nuts

Working pressure by Rules 15.7 kg/cm<sup>2</sup> Front plate at bottom: Material S.M. steel Tensile strength 41/47 kg/mm<sup>2</sup>

Thickness 26 mm Lower back plate: Material S.M. steel Tensile strength 41/47 kg/mm<sup>2</sup> Thickness 26 mm

of stays at wide water space 410 mm between c.c. Are stays fitted with nuts or riveted over fitted with nuts

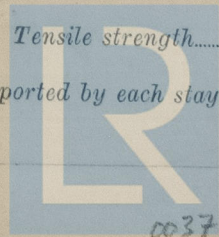
Working pressure 12.2 kg/cm<sup>2</sup> Main stays: Material S.M. steel Tensile strength 41/47 kg/mm<sup>2</sup>

At body of stay 70 mm No. of threads per inch 6 Area supported by each stay 178450 mm<sup>2</sup>

Over threads 16.8 kg/cm<sup>2</sup> Screw stays: Material S.M. steel Tensile strength 41/47 kg/mm<sup>2</sup>

At turned off part 28 No. of threads per inch 9 Area supported by each stay 23485 mm<sup>2</sup>

Over threads



Lloyd's Register  
Foundation

003738-003787-00215



400  
25  
1000  
1000

Working pressure by Rules  $16.8 \text{ kg/cm}^2$  Are the stays drilled at the outer ends ☒ Margin stays: Diameter  $42 \text{ mm}$   
No. of threads per inch  $9$  Area supported by each stay  $591.30 \text{ mm}^2$  Working pressure by Rules  $16.8 \text{ kg/cm}^2$   
Tubes: Material  $S. M. \text{ steel}$  External diameter  $76 \text{ mm}$  Thickness  $5 \text{ mm}$  No. of threads per inch  $9$   
Pitch of tubes  $101 \times 101$  Working pressure by Rules  $17.5 \text{ kg/cm}^2$  Manhole compensation: Size of opening in Book  $150$   
shell plate  $100 \times 200 \text{ mm}$  Section of compensating ring  $900 \times 800 \times 25$  No. of rivets and diameter of rivet holes  $36$   
Outer row rivet pitch at ends  $220 \text{ mm}$  Depth of flange if manhole flanged  $-$  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  $-$   
Internal diameter  $-$  Working pressure by Rules  $-$  Thickness of crown  $-$  No. and diameter stays  $-$   
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 Tubed with headers in smoke box Manufacturers of Tubes Ateliers Tubes de la Meuse  
Number of elements  $18$  Material of tubes  $S. M. \text{ steel}$  Internal diameter and thickness of tubes  $30 \text{ mm} - 4 \text{ mm}$   
Material of headers  $S. M. \text{ steel}$  Tensile strength  $32/45 \text{ kg/mm}^2$  Thickness  $23 \text{ mm}$  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  $1256 \text{ mm}^2$  Are the safety valves fitted with easing gear ☒ Working pressure as Rules  $-$  Pressure to which the safety valves are adjusted  $12 \text{ kg/cm}^2$  Hydraulic test pressure  $-$   
tubes  $70 \text{ kg/cm}^2$  forgings and castings  $36 \text{ kg/cm}^2$  and after assembly in place  $36 \text{ kg/cm}^2$  Are drain cock 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 ☒

SOCIÉTÉ ANONYME JOHN COCKERILL  
The foregoing is a correct description  
*Guillemin* *Antoine*  
FONDE DE POUVOIR *Adm. en Chef du Soc. Cing (Métallurgie)*

Dates of Survey while building  
During progress of work in shops -  $1947$  Feb. 11, Mar. 7, 11, 25 May 6, 16  
During erection on board vessel -  $1948$  Mar. 19, May 19, June 11, 25 July 6, 27, 30  
Are the approved plans of boiler and superheater forwarded herewith ☒  
Total No. of visits  $30$

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.) *These boilers have been built and installed under Special Survey in accordance with the approved plans and Secretary's letters. The workmanship and the material are good. The boilers were examined under pressure, their safety valves adjusted to  $12 \text{ kg/cm}^2$  pressure and an accumulation test was carried out with satisfactory results, they are eligible, in my opinion to have a notation in the Register Book of DB (p.s.) 170 lbs.*

Survey Fee  $2,190.75$  When applied for  $2/2$   
Travelling Expenses (if any)  $3000$  When received  $19$

*G. Talbot*  
Engineer Surveyor to Lloyd's Register of Shipping

FRI. 9 SEPI 1948

Committee's Minute *See for mach. r/l*

Assigned *See for mach. r/l*