

REPORT ON BOILERS.

No. 10125.

28 JAN 1937

Received at London Office

Date of writing Report 23rd January 1937 When handed in at Local Office 1937 Port of Copenhagen

No. in Survey held at Copenhagen Date, First Survey 22nd April 1936 Last Survey 12th January 1937

Reg. Book. 88121 on the Twin Se. Motor Tanker ESSO BELGIUM. (Number of Visits 21.) (Gross 10568.23) (Net 5557.22) Tons

Master J.M. Built at Copenhagen By whom built Chr. Bumsøe & Søn's Yard No. 623 When built 1937

Engines made at Copenhagen By whom made The builders Engine No. 2579 When made 1937

Boilers made at Copenhagen By whom made The builders Boiler No. 1935 When made 1937

Nominal Horse Power 946 Owners American Petroleum Company Port belonging to Societe Anonyme Belge

MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

Plates: Collville's Ld. Mott's well
 Manufacturers of Steel Tubes: Prothero Steel Tube Co. Ld. Walsenburg. Rivets: Steel Rivet Co. (Letter for Record)

Total Heating Surface of Boilers 175 m² Is forced draught fitted no Coal or Oil fired exhaust gas

No. and Description of Boilers 1 off horizontal Working Pressure 15 kg/cm²

Tested by hydraulic pressure to 26 kg/cm² Date of test 31.10.36 No. of Certificate 591 Can each boiler be worked separately no

Area of Firegrate in each Boiler - No. and Description of safety valves to each boiler 2 off 50 mm drain and spring loaded.

Area of each set of valves per boiler per approved 4.320" as fitted 4.320" Pressure to which they are adjusted 214 kg/cm² Are they fitted with easing gear yes

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

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 tank top plating lock plates on platforms Is the bottom of the boiler insulated yes

Largest internal dia. of boilers 2410 mm Length 3354 mm Shell plates: Material S.M. Steel Tensile strength 31.4-31.7 kg/cm²

Thickness 19.5 mm Are the shell plates welded or flanged no Description of riveting: circ. seams end double 216-216 inter. -

long. seams 2 off butt straps 3 off riveted Diameter of rivet holes in circ. seams 25 mm Pitch of rivets 68 mm long. seams 23 mm 155 mm

Percentage of strength of circ. end seams plate 63.3 rivets 58.2 Percentage of strength of circ. intermediate seam plate - rivets -

Percentage of strength of longitudinal joint plate 85.2 rivets 101.3 combined 90.6 Working pressure of shell by Rules 15.07 kg/cm²

Thickness of butt straps outer 19.5 mm inner 19.5 mm No. and Description of Furnaces in each Boiler none

Material - Tensile strength - Smallest outside diameter -

Length of plain part top - bottom - Thickness of plates crown - bottom - Description of longitudinal joint -

Dimensions of stiffening rings on furnace or c.c. bottom - Working pressure of furnace by Rules -

End plates in steam space: Material S.M. Steel Tensile strength 28.8 kg/cm² Thickness 23 mm Pitch of stays D = 485 mm

How are stays secured Screwed in both plates, nuts inside outside Working pressure by Rules 15.1 kg/cm²

Tube plates: Material front S.M. Steel back - Tensile strength 28.8 kg/cm² Thickness 23 mm

Mean pitch of stay tubes in nests 193.5 Pitch across wide water spaces 335 mm Working pressure front 15.9 kg/cm² back -

Girders to combustion chamber tops: Material - Tensile strength - Depth and thickness of girder -

at centre - Length as per Rule - Distance apart - No. and pitch of stays -

in each - Working pressure by Rules - Combustion chamber plates: Material -

Tensile strength - Thickness: Sides - Back - Top - Bottom -

Pitch of stays to ditto: Sides - Back - Top - Are stays fitted with nuts or riveted over -

Working pressure by Rules - Front plate at bottom: Material - Tensile strength -

Thickness - Lower back plate: Material S.M. Steel Tensile strength 28.8 kg/cm² Thickness 23 mm

Pitch of stays at wide water space - Are stays fitted with nuts or riveted over -

Working Pressure 15.8 kg/cm² Main stays: Material S.M. Steel Tensile strength 30.7 kg/cm²

Diameter At body of stay, 2 1/4" or Over threads, 2 1/2" - 2 3/4" No. of threads per inch 11 Area supported by each stay alt. 96100 mm²

Working pressure by Rules 16.6 kg/cm² 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 Margin stays: Diameter (At turned off part, or Over threads)

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

Tubes: Material S.M. Steel External diameter (Plain Stay 2") Thickness 1/16" & 1/4" No. of threads per inch 11/2"

Pitch of tubes 78 x 76.5 Working pressure by Rules 15 lbs/sq in Manhole compensation: Size of opening 60 off - 23 1/4 dia

shell plate 505 x 405 Section of compensating ring flanged - 2 1/4" thick of rivets and diameter of rivet holes

Outer row rivet pitch at ends 155 & 100 Depth of flange if manhole flanged 85 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

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 following is a brief description,
 p. no. AKKONGE SKABOTA
BURMEISTER & WAIN'S MASKIN-OG SKIBSBYGGERI Manufacturer.

Dates of Survey while building

| | | | |
|---------------------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|------------|
| During progress of work in shops - - | 22/1 - 23/1 - 28/1 - 1/2 - 2/10 - 6/10 - 12/10 - 16/10 - 23/10 - 24/10 - 3/11 1936 | Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.) | <u>yes</u> |
| During erection on board vessel - - - | 10/11 - 18/11 - 27/11 - 3/12 - 16/12 - 28/12 1936 | Total No. of visits | <u>21</u> |
| | 5/1 - 6/1 - 11/1 - 12/1 - 1937 | | |

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) The above donkey boiler has been constructed and fitted on board the vessel in accordance with the Rules, the approved plans and the requirements contained in the Secretary's letters E dated 3/3-15/4-14/10-1936

The material used in construction has been tested by Surveyors to this Society as per certificate now produced by the owners and the workmanship is good.

Survey Fee £192 When applied for,

Travelling Expenses (if any) £ 192 When received,

J. Langkilde Jensen.
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI 5 FEB 1937

Assigned See other F.E. report

