

## REPORT ON BOILERS.

No. 2040.

Received at London Office NOV 17 1938

Date of writing Report 11<sup>th</sup> Nov. 1938 When handed in at Local Office

19

Port of BREMEN

No. in Survey held at VEGESACK

Date, First Survey 28<sup>th</sup> Feb. 1938 Last Survey 3<sup>rd</sup> Nov. 1938

73256 on the SINGLE SCREW TANKER

DIALA

(Number of Visits 14) Gross 8106 Tons Net 4781

Master Built at VEGESACK By whom built BREMER VULKAN Yard No. 757 When built 1938

Engines made at VEGESACK By whom made BREMER VULKAN Engine No. 540/7 When made 1938

Boilers made at VEGESACK By whom made BREMER VULKAN Boiler No. 843 When made 1938

Nominal Horse Power 502 Owners ANGLO SAXON PETROLEUM CO. LD. Port belonging to LONDON

## MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Messrs Deutsche Rohrenwerke A.G. Werk Mülheim Ruhr (Letter for Record 5)

Total Heating Surface of Boilers 233 m<sup>2</sup> Is forced draught fitted ☒ Oil fired ☒ exhaust gasNo. and Description of Boilers One Multitubular Donkey Boiler Working Pressure 180 lbs (12.6 kg/cm<sup>2</sup>)Tested by hydraulic pressure to 320 Date of test 9. 8. 38 No. of Certificate 209 Can each boiler be worked separately ☒Area of Firegrate in each Boiler 21 ft<sup>2</sup> No. and Description of safety valves to each boiler 2 spring loaded safety valvesArea of each set of valves per boiler { per Rule 12512 mm<sup>2</sup> as fitted 15708 " Pressure to which they are adjusted 180 lbs Are they fitted with easing gear ☒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 ☒ Is oil fuel carried in the double bottom under boilers ☒Smallest distance between shell of boiler and tank top plating situated in lower deck Is the bottom of the boiler insulated ☒Largest internal dia. of boilers 4362 mm Length 3505 mm Shell plates: Material P. M. Steel Tensile strength 47-53 kg/cm<sup>2</sup>

Thickness 29 Z Are the shell plates welded or flanged flanged Description of riveting: circ. seams { end seams {

long. seams double butt straps Diameter of rivet holes in { circ. seams 32 Z Pitch of rivets { 100 Z { 215 Z

Percentage of strength of circ. end seams { plate 68 % rivets 54 % Percentage of strength of circ. intermediate seam { plate rivets

Percentage of strength of longitudinal joint { plate 85 % rivets 93 % combined 88 % Working pressure of shell by Rules 13 kg/cm<sup>2</sup>

Thickness of butt straps { outer 29 Z inner 29 Z No. and Description of Furnaces in each Boiler 3 furnaces of Morrison Type

Material P. M. Steel Tensile strength 41-47 kg/cm<sup>2</sup> Smallest outside diameter 1080 Z

Length of plain part { top 120 Z bottom 120 Z Thickness of plates { crown 15 Z bottom 15 Z Description of longitudinal joint welded

Dimensions of stiffening rings on furnace or c.c. bottom ☒ Working pressure of furnace by Rules 14.2 kg/cm<sup>2</sup>End plates in steam space: Material P. M. Steel Tensile strength 41-47 kg/cm<sup>2</sup> Thickness 29 Z Pitch of stays 420 x 390 ZHow are stays secured nuts & washers inside & outside Working pressure by Rules 17 kg/cm<sup>2</sup>Tube plates: Material { front P. M. Steel Tensile strength { 41-47 kg/cm<sup>2</sup> Thickness { 26 Z { 26 ZMean pitch of stay tubes in nests 208 x 208 Z Pitch across wide water spaces 360 Z Working pressure { front 16 kg/cm<sup>2</sup> back 40 - -Girders to combustion chamber tops: Material P. M. Steel Tensile strength 47-53 kg/cm<sup>2</sup> Depth and thickness of girder

at centre 230 x 12 Z Length as per Rule 770 Z Distance apart 175 &amp; 180 Z No. and pitch of stays

in each 2 of 210 Z Working pressure by Rules 14.8 kg/cm<sup>2</sup> Combustion chamber plates: Material P. M. SteelTensile strength 41-47 kg/cm<sup>2</sup> Thickness: Sides 19 Z Back 20 Z Top 19 Z Bottom 25 ZPitch of stays to ditto: Sides 200 x 220 Z Back 200 x 200 Z Top 210 x 175/180 Are stays fitted with nuts or riveted over ☒ partly fitted with nutsWorking pressure by Rules 14 kg/cm<sup>2</sup> Front plate at bottom: Material P. M. Steel Tensile strength 41-47 kg/cm<sup>2</sup>Thickness 26 Z Lower back plate: Material P. M. Steel Tensile strength 41-47 kg/cm<sup>2</sup> Thickness 26 ZPitch of stays at wide water space 360 Z Are stays fitted with nuts or riveted over ☒ fitted with nutsWorking Pressure 23 kg/cm<sup>2</sup> Main stays: Material P. M. Steel Tensile strength 41-47 kg/cm<sup>2</sup>

Diameter { At body of stay, 76 Z No. of threads per inch 8 Area supported by each stay 420 x 390 Z

Working pressure by Rules 18.5 kg/cm<sup>2</sup> Screw stays: Material P. M. Steel Tensile strength 41-47 kg/cm<sup>2</sup>

Diameter { At turned off part, 39 Z No. of threads per inch 9 Area supported by each stay 200 x 200 Z



Working pressure by Rules  $15 \text{ kg/cm}^2$  Are the stays drilled at the outer ends yes Margin stays: Diameter { At turned off part, or Over threads 42 51 54 2  
No. of threads per inch 9 Area supported by each stay 200 x 360 2 Working pressure by Rules 13 kg/cm<sup>2</sup>  
Tubes: Material P. M. Steel External diameter { Plain 76 2 Thickness { 3.75 2 No. of threads per inch 9  
Stay 76 2 Pitch of tubes 104 x 104 2 Working pressure by Rules 13.5 kg/cm<sup>2</sup> Manhole compensation: Size of opening in  
shell plate 420/525 2 Section of compensating ring 230 x 29 2 No. of rivets and diameter of rivet holes 40 rivets of 32 2 2 2 2  
Outer row rivet pitch at ends 190 2 Depth of flange if manhole flanged 100 2 Steam Dome: Material no steam dome  
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 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 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 — forgings and 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 22 inclusive for boilers been complied with yes

The foregoing is a correct description,  
Bremer Vulkan  
Schiffbau und Maschinenfabrik Manufacturer.

Dates of Survey { During progress of work in shops 28/2.11. 23/4. 26/4 9/5. 18/5. 19/6. 4/6. 2/8. 9/8 Are the approved plans of boiler and superheater forwarded herewith 12. 1. 37  
while building { During erection on board vessel 27/9. 5/10. 19/10 28/10. 3/11. (If not state date of approval.)  
Total No. of visits 14

Is this Boiler a duplicate of a previous case yes If so, state Vessel's name and Report No. ALEXIA, & TORNUS

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) This boiler has been built under  
Special Permit in accordance with the approved plan, the Purday's letter and  
in conformity with the requirements of the Rules. The materials used  
in the construction are made at works recognized by the Committee and  
tested by the Port Surveyor. Materials and workmanship are of good quality  
This boiler is eligible in my opinion to be recorded in the Port Reg. Book  
with D.B. pressure 180 lbs

Marks on boiler:

No 209  
LLOYD'S TEST  
320 lbs  
WP 180 lbs  
A.C. 9.8.38.

Thickness of adjusting washers

port 19 2

Head. 20.5 2

Survey Fee please see Rpt. 4 b £ — : — : — When applied for, — 19  
Travelling Expenses (if any) £ — : — : — When received, — 19

A. Danstun

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRP. 25 NOV 1938

Assigned See FE. machy rpt.



© 2020

Lloyd's Register  
Foundation