

## REPORT ON BOILERS.

No. 29865

AUG - 8 1938

Received at London Office

of writing Report 3<sup>rd</sup> Aug. 1938, When handed in at Local Office

Port of HAMBURG

in Survey held at

HAMBURG

Date, First Survey 2<sup>nd</sup> MarchLast Survey 25<sup>th</sup> July 1938

on the Steel Single Screw Motor Tanker

INVERDARGLE

(Number of Visits 25)

Tons { Gross 9456  
Net 5561

er

Built at HAMBURG

By whom built Deutsche Werft A.G.

Yard No. 202 When built 1938

nes made at

Angsburg

By whom made Maschinenfabrik Augsburg Nürnberg

Engine No. 690170 When made 1938

ers made at

HAMBURG

By whom made Deutsche Werft A.G.

Boiler No. 676, 676 When made 1938

inal Horse Power

1000

Owners

Inver Tankers, Ltd.

Port belonging to Dublin

## MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

Stay tubes: Prof. E. Walzwerk A.G. of Düsseldorf - Beisholz.

Manufacturers of Steel Plates: Gutehoffnungshütte A.G. Abt. Walzwerk Oberhausen

(Letter for Record 5)

al Heating Surface of Boilers each 150 sq. metres

Is forced draught fitted yes

Coal or Oil fired oil fired

and Description of Boilers two single ended multitubular donkey boilers

Working Pressure 180 lbs/sq. inch

ted by hydraulic pressure to 320 lbs Date of test 12.5.38 No. of Certificate 698, 699 Can each boiler be worked separately yes

a of Firegrate in each Boiler

No. and Description of safety valves to each boiler each boiler two 3-spring loaded safety valves

a of each set of valves per boiler { per Rule 6644 sq. mm  
as fitted 8836 sq. mm

Pressure to which they are adjusted 180 lbs Are they fitted with easing gear yes

ase of donkey boilers, state whether steam from main boilers can enter the donkey boiler

allest distance between boilers or uptakes and bunkers on woodwork 900 mm

Is oil fuel carried in the double bottom under boilers boiler in tweendeck

allest distance between shell of boiler and tank top plating 430 mm

Is the bottom of the boiler insulated yes

argest internal dia. of boilers 3600 mm

Length 3198 mm

Shell plates: Material S-M-Steel Tensile strength 41-43 kg/mm<sup>2</sup>

Thickness 24 mm

Are the shell plates welded or flanged flanged, double

Description of riveting: circ. seams { end double row, staggered  
inter. staggeredg. seams treble row, double butt strapped Diameter of rivet holes in { circ. seams 29 mm  
long. seams 29 mmPitch of rivets { 94.8 mm  
185.0 mmcentage of strength of circ. end seams { plate 69.4 %  
rivets 44.8 %Percentage of strength of circ. intermediate seam { plate -  
rivets -centage of strength of longitudinal joint { plate 84.3 %  
rivets 106.8 %  
combined 90.02 %Working pressure of shell by Rules 12.84 kg/cm<sup>2</sup>ickness of butt straps { outer 24 mm  
inner 34 mm

No. and Description of Furnaces in each Boiler two corrugated furnaces (Morison type)

aterial S-M-Steel

Tensile strength 41-43 kg/mm<sup>2</sup>

Smallest outside diameter 1026 mm

ngth of plain part { top 190 mm  
bottom 240 mmThickness of plates { crown 13 mm  
bottom 13 mm

Description of longitudinal joint water gas lap welded

mensions of stiffening rings on furnace or c.c. bottom

Working pressure of furnace by Rules 12.84 kg/cm<sup>2</sup>

d plates in steam space: Material S-M-Steel

Tensile strength 41-43 kg/mm<sup>2</sup>

Thickness 24 mm Pitch of stays 400 x 400 mm

are stays secured washers &amp; straps riveted to shell, nuts inside &amp; outside

Working pressure by Rules 14.5 kg/cm<sup>2</sup>be plates: Material { front S-M-Steel  
back S-M-SteelTensile strength { 41-43 kg/mm<sup>2</sup>  
41-43 kg/mm<sup>2</sup>Thickness { 24 mm  
22 mm

an pitch of stay tubes in nests 312 x 212 mm

Pitch across wide water spaces 360 mm

Working pressure { front 16.4 kg/cm<sup>2</sup>  
back 12.9 kg/cm<sup>2</sup>

orders to combustion chamber tops: Material S-M-Steel

Tensile strength 41-43 kg/mm<sup>2</sup>

Depth and thickness of girder

centre 200 mm - 2 x 14 mm

Length as per Rule 658.5 mm

Distance apart 210 mm

No. and pitch of stays

each 2 - 200 mm

Working pressure by Rules 15.2 kg/cm<sup>2</sup>

Combustion chamber plates: Material S-M-Steel

onsile strength 41-43 kg/mm<sup>2</sup>

Thickness: Sides 16 mm

Back 19.5 mm

Top 16 mm

Bottom 24 mm

itch of stays to ditto: Sides 200 x 200 mm

Back 308 x 200 mm

Top 210 x 200 mm

Are stays fitted with nuts or riveted over margin stays with nuts in nests riveted over

orking pressure by Rules 15.6-15.5-14.8 kg/cm<sup>2</sup>

Front plate at bottom: Material S-M-Steel

Tensile strength 41-43 kg/mm<sup>2</sup>

ickness 24 mm

Lower back plate: Material S-M-Steel

Tensile strength 41-43 kg/mm<sup>2</sup>

Thickness 24 mm

itch of stays at wide water space 525 mm

diameter

Are stays fitted with nuts or riveted over doubling plate, nuts inside &amp; outside

orking Pressure 14.2 kg/cm<sup>2</sup>

Main stays: Material S-M-Steel

Tensile strength 41-43 kg/mm<sup>2</sup>

At body of stay, 62.58 mm

No. of threads per inch 6

Area supported by each stay 16000 mm<sup>2</sup>

Over threads 68.0 mm

orking pressure by Rules 13.77 kg/cm<sup>2</sup>

Screw stays: Material S-M-Steel

Tensile strength 41-43 kg/mm<sup>2</sup>

At turned off part, 35.38 mm

No. of threads per inch 9

Area supported by each stay 41000 mm<sup>2</sup>

Over threads 39.0 mm

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Working pressure by Rules  $16.67 \text{ kg/cm}^2$  Are the stays drilled at the outer ends ☒ Margin stays: Diameter { At turned off part,  $44.38 = 38.58$  Over threads  $48.9 - 42.0$  }  
No. of threads per inch  $9$  Area supported by each stay  $383 \times 200 = 56600 \text{ mm}^2$  Working pressure by Rules  $12.7 - 13.3 \text{ kg/cm}^2$   
Tubes: Material **S.M. Steel** External diameter { Plain  $76 \text{ mm}$  Stay  $76 \text{ mm}$  } Thickness {  $8.25 \text{ mm}$   $8 \text{ mm}$  } No. of threads per inch  $9$   
Pitch of tubes  $106 \times 104 \text{ mm}$  Working pressure by Rules  $14.9 \text{ kg/cm}^2$  Manhole compensation: Size of opening  $300 \times 400 \text{ mm}$  Section of compensating ring  $2 \times (24 \times 200)$  No. of rivets and diameter of rivet holes  $32 - 29 \text{ mm}$   
shell plate  $300 \times 400 \text{ mm}$  Outer row rivet pitch at ends  $112 \text{ mm}$  Depth of flange if manhole flanged  $14 \text{ mm}$  Steam Dome: Material **S.M. Steel**  
Tensile strength  $41 - 47 \text{ kg/mm}^2$  Thickness of shell  $14 \text{ mm}$  Description of longitudinal joint **acetylene welded & secured**  
Diameter of rivet holes  $26 \text{ mm}$  Pitch of rivets  $84 \text{ mm}$  Percentage of strength of joint { Plate  $60\%$  Rivets  $60\%$  }  
Internal diameter  $800 \text{ mm}$  Working pressure by Rules  $16.5 \text{ kg/cm}^2$  Thickness of crown  $16 \text{ mm}$  No. and diameter of stays  $16$  Inner radius of crown  $640 \text{ mm}$  Working pressure by Rules  $16.5 \text{ kg/cm}^2$   
How connected to shell **pressed flange, riveted to shell** Size of doubling plate under dome  $300 \times 400 \text{ mm}$  Diameter of rivet holes and of rivets in outer row in dome connection to shell  $29 \text{ mm} - 30 \text{ mm}$

Type of Superheater \_\_\_\_\_ Manufacturers of \_\_\_\_\_  
Number of elements \_\_\_\_\_ Material of tubes \_\_\_\_\_ Internal diameter and thickness of tubes \_\_\_\_\_  
Material of headers \_\_\_\_\_ Tensile strength \_\_\_\_\_ Thickness \_\_\_\_\_ Can the superheater be shut off from the boiler \_\_\_\_\_  
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 \_\_\_\_\_  
Rules \_\_\_\_\_ Pressure to which the safety valves are adjusted \_\_\_\_\_ Hydraulic test pressure \_\_\_\_\_  
tubes \_\_\_\_\_ forgings and castings \_\_\_\_\_ and after assembly in place \_\_\_\_\_ Are drain 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 ☒

The foregoing is a correct description,

DEUTSCHE WERFT  
AKTIENGESELLSCHAFT

Dates of Survey { During progress of work in shops - 1932 Apr. 5, 7, 9, 10, 21, 23, 28 May 4, 6, 12, 31. Are the approved plans of boiler and superheater forwarded herewith 27.2.33 (If not state date of approval.)  
while building { During erection on board vessel - May 17, 24, 28, June 10, 14, 20, July 13, 18, 25 Total No. of visits 25

Is this Boiler a duplicate of a previous case ☒ If so, state Vessel's name and Report No. **STONORE MERSK HAMBURG Report No. 228**  
**MOESN GIANT**  
**EVERETT**

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

Material and workmanship of these donkey boilers are of good quality. The materials used in their construction are made at works recognized by the Committee and tested by the Society's Surveyors in accordance with the requirements of the Rules.

These donkey boilers having been made under Special Survey in conformity with the provisions of the Rules, the Secretary's letter and otherwise in compliance with the requirements of the Rules are eligible in my opinion to be classed with notation in the Register Book.

Two Donkey Boilers 180 lbs/sq. inch pressure.

Thickness of adjusting washers of safety valves: Port boiler - port 30.0 mm, starboard 34.2 mm  
Starboard boiler - port 35.0 mm, starboard 30.0 mm

Survey Fee ... **£R No 432.-** When applied for, **29th July 1938**  
Travelling Expenses (if any) £ : : When received, **19**

H. Rohrs

Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute **FRI 12 AUG 1938**

Assigned **See Ham 22865**



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