

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

193

Port of Copenhagen

No. in Survey held at

Copenhagen

Date, First Survey 22nd April 1936 Last Survey 12th January 1937.

Reg. Book.

(Number of Visits 21.)

Gross 10568.23

88121 on the Twin Screw Tanker ESSO BELGIUM.

Tons Net 5557.22

Master

Built at

Copenhagen

By whom built

Opl. Bumsaile-Wain's

Marsin og Skibbyggeri 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
Societe Anonyme Belge

Port belonging to

Antwerp.

MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

Plate: Collville & Co. Motherwell

Manufacturers of Steel Tubes: Prothero Steel Tube Co. Ltd. Walsby. Rivets: Lane Bros. Exm. (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 kg/cm² drain, direct 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

✓

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

boiler plates on platform

Is the bottom of the boiler insulated

yes

Largest internal dia. of boilers

2410 mm

Length 3354 mm

Shell plates: Material

S. St. 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

long. seam

26 ball straps 36 rivets

Diameter of rivet holes in

circ. seams 25 mm

long. seams 23 mm

Pitch of rivets

68 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. St. 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. St. Steel

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

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. St. 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. St. Steel

Tensile strength

30.7 kg/cm²

Diameter

At body of stay,

2 1/2"

or Over threads

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

-

002736-002742

Lloyd's Register
Foundation

Working pressure by Rules ☒ Are the stays drilled at the outer ends ☒ Margin stays: Diameter ☒ At turned off part, ☒ Over threads

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

Tubes: Material *S.M. Steel* External diameter ☒ Plain *2"* Thickness *5/16" & 1/4"* No. of threads per inch *11 1/2*

Pitch of tubes *78 x 76.5* Working pressure by Rules *15 kg/cm²* Manhole compensation: Size of opening *60 off - 23 1/4*

shell plate *505 x 405* Section of compensating ring *flanged - 2 1/4" thick* of rivets and diameter of rivet holes *60 off - 23 1/4*

Outer row rivet pitch at ends *55 & 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 Manufacturers of ☒ Tubes ☒ 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, 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, *AKOUGE SKABER*

P. P. BURMEISTER & WAINSKIN-OG SKIBSBYGERI Manufacturer

Dates of Survey ☒ During progress of work in shops - *22/11-23/11-24/11-1/12-2/12-3/12-4/12-5/12-6/12-7/12-8/12-9/12-10/12-11/12-12/12-13/12-14/12-15/12-16/12-17/12-18/12-19/12-20/12-21/12-22/12-23/12-24/12-25/12-26/12-27/12-28/12-29/12-30/12-31/12-1/1-2/1-3/1-4/1-5/1-6/1-7/1-8/1-9/1-10/1-11/1-12/1-13/1-14/1-15/1-16/1-17/1-18/1-19/1-20/1-21/1-22/1-23/1-24/1-25/1-26/1-27/1-28/1-29/1-30/1-31/1-1/2-2/2-3/2-4/2-5/2-6/2-7/2-8/2-9/2-10/2-11/2-12/2-13/2-14/2-15/2-16/2-17/2-18/2-19/2-20/2-21/2-22/2-23/2-24/2-25/2-26/2-27/2-28/2-29/2-30/2-31/2-1/3-2/3-3/3-4/3-5/3-6/3-7/3-8/3-9/3-10/3-11/3-12/3-13/3-14/3-15/3-16/3-17/3-18/3-19/3-20/3-21/3-22/3-23/3-24/3-25/3-26/3-27/3-28/3-29/3-30/3-31/3-1/4-2/4-3/4-4/4-5/4-6/4-7/4-8/4-9/4-10/4-11/4-12/4-13/4-14/4-15/4-16/4-17/4-18/4-19/4-20/4-21/4-22/4-23/4-24/4-25/4-26/4-27/4-28/4-29/4-30/4-31/4-1/5-2/5-3/5-4/5-5/5-6/5-7/5-8/5-9/5-10/5-11/5-12/5-13/5-14/5-15/5-16/5-17/5-18/5-19/5-20/5-21/5-22/5-23/5-24/5-25/5-26/5-27/5-28/5-29/5-30/5-31/5-1/6-2/6-3/6-4/6-5/6-6/6-7/6-8/6-9/6-10/6-11/6-12/6-13/6-14/6-15/6-16/6-17/6-18/6-19/6-20/6-21/6-22/6-23/6-24/6-25/6-26/6-27/6-28/6-29/6-30/6-31/6-1/7-2/7-3/7-4/7-5/7-6/7-7/7-8/7-9/7-10/7-11/7-12/7-13/7-14/7-15/7-16/7-17/7-18/7-19/7-20/7-21/7-22/7-23/7-24/7-25/7-26/7-27/7-28/7-29/7-30/7-31/7-1/8-2/8-3/8-4/8-5/8-6/8-7/8-8/8-9/8-10/8-11/8-12/8-13/8-14/8-15/8-16/8-17/8-18/8-19/8-20/8-21/8-22/8-23/8-24/8-25/8-26/8-27/8-28/8-29/8-30/8-31/8-1/9-2/9-3/9-4/9-5/9-6/9-7/9-8/9-9/9-10/9-11/9-12/9-13/9-14/9-15/9-16/9-17/9-18/9-19/9-20/9-21/9-22/9-23/9-24/9-25/9-26/9-27/9-28/9-29/9-30/9-31/9-1/10-2/10-3/10-4/10-5/10-6/10-7/10-8/10-9/10-10/10-11/10-12/10-13/10-14/10-15/10-16/10-17/10-18/10-19/10-20/10-21/10-22/10-23/10-24/10-25/10-26/10-27/10-28/10-29/10-30/10-31/10-1/11-2/11-3/11-4/11-5/11-6/11-7/11-8/11-9/11-10/11-11/11-12/11-13/11-14/11-15/11-16/11-17/11-18/11-19/11-20/11-21/11-22/11-23/11-24/11-25/11-26/11-27/11-28/11-29/11-30/11-31/11-1/12-2/12-3/12-4/12-5/12-6/12-7/12-8/12-9/12-10/12-11/12-12/12-13/12-14/12-15/12-16/12-17/12-18/12-19/12-20/12-21/12-22/12-23/12-24/12-25/12-26/12-27/12-28/12-29/12-30/12-31/12-1/13-2/13-3/13-4/13-5/13-6/13-7/13-8/13-9/13-10/13-11/13-12/13-13/13-14/13-15/13-16/13-17/13-18/13-19/13-20/13-21/13-22/13-23/13-24/13-25/13-26/13-27/13-28/13-29/13-30/13-31/13-1/14-2/14-3/14-4/14-5/14-6/14-7/14-8/14-9/14-10/14-11/14-12/14-13/14-14/14-15/14-16/14-17/14-18/14-19/14-20/14-21/14-22/14-23/14-24/14-25/14-26/14-27/14-28/14-29/14-30/14-31/14-1/15-2/15-3/15-4/15-5/15-6/15-7/15-8/15-9/15-10/15-11/15-12/15-13/15-14/15-15/15-16/15-17/15-18/15-19/15-20/15-21/15-22/15-23/15-24/15-25/15-26/15-27/15-28/15-29/15-30/15-31/15-1/16-2/16-3/16-4/16-5/16-6/16-7/16-8/16-9/16-10/16-11/16-12/16-13/16-14/16-15/16-16/16-17/16-18/16-19/16-20/16-21/16-22/16-23/16-24/16-25/16-26/16-27/16-28/16-29/16-30/16-31/16-1/17-2/17-3/17-4/17-5/17-6/17-7/17-8/17-9/17-10/17-11/17-12/17-13/17-14/17-15/17-16/17-17/17-18/17-19/17-20/17-21/17-22/17-23/17-24/17-25/17-26/17-27/17-28/17-29/17-30/17-31/17-1/18-2/18-3/18-4/18-5/18-6/18-7/18-8/18-9/18-10/18-11/18-12/18-13/18-14/18-15/18-16/18-17/18-18/18-19/18-20/18-21/18-22/18-23/18-24/18-25/18-26/18-27/18-28/18-29/18-30/18-31/18-1/19-2/19-3/19-4/19-5/19-6/19-7/19-8/19-9/19-10/19-11/19-12/19-13/19-14/19-15/19-16/19-17/19-18/19-19/19-20/19-21/19-22/19-23/19-24/19-25/19-26/19-27/19-28/19-29/19-30/19-31/19-1/20-2/20-3/20-4/20-5/20-6/20-7/20-8/20-9/20-10/20-11/20-12/20-13/20-14/20-15/20-16/20-17/20-18/20-19/20-20/20-21/20-22/20-23/20-24/20-25/20-26/20-27/20-28/20-29/20-30/20-31/20-1/21-2/21-3/21-4/21-5/21-6/21-7/21-8/21-9/21-10/21-11/21-12/21-13/21-14/21-15/21-16/21-17/21-18/21-19/21-20/21-21/21-22/21-23/21-24/21-25/21-26/21-27/21-28/21-29/21-30/21-31/21-1/22-2/22-3/22-4/22-5/22-6/22-7/22-8/22-9/22-10/22-11/22-12/22-13/22-14/22-15/22-16/22-17/22-18/22-19/22-20/22-21/22-22/22-23/22-24/22-25/22-26/22-27/22-28/22-29/22-30/22-31/22-1/23-2/23-3/23-4/23-5/23-6/23-7/23-8/23-9/23-10/23-11/23-12/23-13/23-14/23-15/23-16/23-17/23-18/23-19/23-20/23-21/23-22/23-23/23-24/23-25/23-26/23-27/23-28/23-29/23-30/23-31/23-1/24-2/24-3/24-4/24-5/24-6/24-7/24-8/24-9/24-10/24-11/24-12/24-13/24-14/24-15/24-16/24-17/24-18/24-19/24-20/24-21/24-22/24-23/24-24/24-25/24-26/24-27/24-28/24-29/24-30/24-31/24-1/25-2/25-3/25-4/25-5/25-6/25-7/25-8/25-9/25-10/25-11/25-12/25-13/25-14/25-15/25-16/25-17/25-18/25-19/25-20/25-21/25-22/25-23/25-24/25-25/25-26/25-27/25-28/25-29/25-30/25-31/25-1/26-2/26-3/26-4/26-5/26-6/26-7/26-8/26-9/26-10/26-11/26-12/26-13/26-14/26-15/26-16/26-17/26-18/26-19/26-20/26-21/26-22/26-23/26-24/26-25/26-26/26-27/26-28/26-29/26-30/26-31/26-1/27-2/27-3/27-4/27-5/27-6/27-7/27-8/27-9/27-10/27-11/27-12/27-13/27-14/27-15/27-16/27-17/27-18/27-19/27-20/27-21/27-22/27-23/27-24/27-25/27-26/27-27/27-28/27-29/27-30/27-31/27-1/28-2/28-3/28-4/28-5/28-6/28-7/28-8/28-9/28-10/28-11/28-12/28-13/28-14/28-15/28-16/28-17/28-18/28-19/28-20/28-21/28-22/28-23/28-24/28-25/28-26/28-27/28-28/28-29/28-30/28-31/28-1/29-2/29-3/29-4/29-5/29-6/29-7/29-8/29-9/29-10/29-11/29-12/29-13/29-14/29-15/29-16/29-17/29-18/29-19/29-20/29-21/29-22/29-23/2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