

## REPORT ON BOILERS

No. 46813

16 JUL 1927

Received at London Office 27

Date of writing Report 24 July 1927

When handed in at Local Office 21-7-1927

Port of Glasgow

No. in Surrey held at Paisley

Date, First Survey 28.3.27

Last Survey 19 July 1927

Reg. Book.

(Number of Visits 18) Gross 92

Tons Net

on the Baidun 490.

Dredger "MEGOHM"

Master Built at Paisley By whom built Fleming &amp; Ferguson Ltd Yard No. 490 When built 1927

Engines made at Paisley By whom made Fleming &amp; Ferguson Ltd Engine No. 490 When made 1927

Boilers made at Paisley By whom made Fleming &amp; Ferguson Ltd Boiler No. 490 When made 1927

Nominal Horse Power Owners Port belonging to

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

Manufacturers of Steel D. Colville &amp; Sons. Ltd. (Letter for Record (S))

Total Heating Surface of Boilers 1006 sq ft Is forced draught fitted No (Sallyph defd) Coal or Oil fired

No. and Description of Boilers One S.E. Return tube cylindrical boiler Working Pressure 140 lbs

Tested by hydraulic pressure to 260 lbs Date of test 11.7.27 No. of Certificate 14496 Can each boiler be worked separately

Area of Firegrate in each Boiler 76 sq ft No. and Description of safety valves to each boiler

Area of each set of valves per boiler {per Rule as fitted Pressure to which they are adjusted 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 Is the bottom of the boiler insulated

Largest internal dia. of boilers 10'-0" Length 10'-3" Shell plates: Material Steel Tensile strength 28-32 tons

Thickness 3 3/32" Are the shell plates welded or flanged No Description of riveting: circ. seams {end D.R. Lap. inter. 3 1/2"}

Long. seams T.R. D.B.S. Diameter of rivet holes in {circ. seams 1 5/16" long. seams 1 5/16" Pitch of rivets {4 13/16"}

Percentage of strength of circ. end seams {plate 73.2% rivets 44.6% Percentage of strength of circ. intermediate seam {plate 80.5% rivets 92.1%}

Percentage of strength of longitudinal joint {plate 80.5% rivets 92.1% combined Working pressure of shell by Rules 143 lbs

Thickness of butt straps {outer 1 1/2" inner 5/8" No. and Description of Furnaces in each Boiler 2 Brighton Sections

Material Steel Tensile strength 26-30 tons Smallest outside diameter 2'-11 1/4"

Length of plain part {top 9 1/16" bottom 9 1/16" Thickness of plates {crown 3/8" bottom 3/8" Description of longitudinal joint welded

Dimensions of stiffening rings on furnace or c.c. bottom Working pressure of furnace by Rules 149.7 lbs.

End plates in steam space: Material Steel Tensile strength 26-30 tons Thickness 2 5/32" Pitch of stays 14" x 13 1/2"

How are stays secured 2 nuts &amp; washers Working pressure by Rules 146.1 lbs.

Tube plates: Material {front Steel back Steel Tensile strength {26/30 tons Thickness {2 5/32" 4 1/16"}

Mean pitch of stay tubes in nests 12 3/4" x 8 1/4" Pitch across wide water spaces 13 1/4" x 8 1/4" Working pressure {front 149 lbs back 151 lbs}

Girders to combustion chamber tops: Material Steel Tensile strength 28-32 tons Depth and thickness of girder

at centre 2 plates 7 1/2" x 5 3/8" Length as per Rule 2'-4 3/4" Distance apart 10 3/8" No. and pitch of stays

in each 2 @ 9 1/4" Working pressure by Rules 143.6 lbs Combustion chamber plates: Material Steel

Tensile strength 26-30 tons Thickness: Sides 5/8" Back 9 1/16" Top 5/8" Bottom 5/8"

Pitch of stays to ditto: Sides 9 1/4" x 9" Back 8 1/2" x 9" Top 10 3/8" x 9 1/4" Are stays fitted with nuts or riveted over nuts

Working pressure by Rules 140.1 lbs Front plate at bottom: Material Steel Tensile strength 26-30 tons

Thickness 2 5/32" Lower back plate: Material Steel Tensile strength 26-30 tons Thickness 2 5/32"

Pitch of stays at wide water space 13 1/4" x 8 1/2" Are stays fitted with nuts riveted over yes

Working Pressure 205 lbs Main stays: Material Steel Tensile strength 28-32 tons

Diameter {At body of stays 2 1/8" No. of threads per inch 6 Area supported by each stay 1890"

Working pressure by Rules 160 lbs Screw stays: Material Steel Tensile strength 26-30 tons

Diameter {At turned off part, 1 1/2" No. of threads per inch 9 Area supported by each stay 83.250"

Shipping.

W1240-0064



Working pressure by Rules 151 lb Are the stays drilled at the outer ends ☒ No Margin stays: Diameter { At turned off part. 1 5/8" Over threads 1 5/8" }  
No. of threads per inch 9 Area supported by each stay 93.50" Working pressure by Rules 162.1 lb  
Tubes: Material h.w.w.l. External diameter { Plain 3 1/4" Stay 3 1/4" } Thickness { 9 w.g. 1/32" 9/32" } No. of threads per inch 9.  
Pitch of tubes 4 1/4" x 4 1/8" Working pressure by Rules 180 lb Manhole compensation: Size of opening in shell plate 16" x 12" Section of compensating ring 4" x 33/32" No. of rivets and diameter of rivet holes 32 @ 1 5/16" dia.  
Outer row rivet pitch at ends 4 3/16" Depth of flange if manhole flanged 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  
How connected to shell Inner radius of crown Working pressure by Rules  
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

The foregoing is a correct description,  
*J. E. Hume* Director Manufacturer.

Dates of Survey { During progress of work in shops - - } See Accompanying Machinery report  
while building { During erection on board vessel - - }

Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.)  
Total No. of visits 18

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) This boiler has been built under special survey in accordance with Rules and approved plan. Materials and workmanship good.  
This boiler is to be order of The Burmah Oil Co. Ltd and is being exported to Rangoon to be fitted in the S.S. 490 which is being erected at Rangoon.

Survey Fee ... £ ... When applied for, 192  
Travelling Expenses (if any) £ ... When received, 192

*J. Nicholas*  
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 26 JUL 1927

FRI. 23 MAR 1928

Assigned Defered.

*R. Lee Rgn* 4/1 90594

TUES. 3 APR 1928 TUES. 1 MAY 1928