

REPORT ON BOILERS.

No. 40756.

Received at London Office 17 APR 1930

Date of writing Report 16.4.30 When handed in at Local Office 16 April 1930 Port of HULL.

No. in Survey held at Hull Date, First Survey 29 Aug/29. Last Survey 12 April 1930.

10712 on the Steam Trawler CLEVELA (Number of Visits 24) Gross 355.33 Tons Net 140.49

Master Built at Selby By whom built Cochran & Sons Ltd Yard No. 1073 When built 1930

Engines made at Hull By whom made Ames & Smith Ltd Engine No. 600 When made 1930

Boilers made at Hull By whom made do Boiler No. 600 When made 1930

Nominal Horse Power 94 Owners J. Mans & Sons Ltd Port belonging to Hultonwood.

MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Apperby Iron Works Co Ltd (Letter for Record (S))

Total Heating Surface of Boilers 1425 Sq. ft. Is forced draught fitted Yes Coal or Oil fired Coal

No. and Description of Boilers One single ended return tube Working Pressure 200 Lbs.

Tested by hydraulic pressure to 300 Lbs. Date of test 7.3.30 No. of Certificate 3465 Can each boiler be worked separately Yes

Area of Firegrate in each Boiler 51 sq. ft. No. and Description of safety valves to each boiler 2 Spring loaded

Area of each set of valves per boiler {per Rule 9.8 sq. ft. as fitted 9.8 sq. ft. Pressure to which they are adjusted 200 Lbs. 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 4" Is oil fuel carried in the double bottom under boilers Yes

Smallest distance between shell of boiler and tank top plating Is the bottom of the boiler insulated

Largest internal dia. of boilers 14' 6" Length 10' 8" Shell plates: Material Steel Tensile strength 29/30 Tons

Thickness 1 3/32" Are the shell plates welded or flanged No Description of riveting: circ. seams {end 3.81" inter. 8.78" long. seams T.R. 518 S. Diameter of rivet holes in {circ. seams 1 3/32" long. seams Pitch of rivets {plate 88.0 rivets 42.0 Percentage of strength of circ. end seams {plate 85.1 rivets 86.3 Percentage of strength of circ. intermediate seam {plate rivets combined Working pressure of shell by Rules 201 Lbs.

Thickness of butt straps {outer 1" inner 1 1/8" No. and Description of Furnaces in each Boiler Three plain

Material Steel Tensile strength 28/30 Tons Smallest outside diameter 42 1/8"

Length of plain part {top 79" bottom 74" Thickness of plates {crown 13/16" bottom 1/16" Description of longitudinal joint welded

Dimensions of stiffening rings on furnace or c.c. bottom Working pressure of furnace by Rules 204 Lbs.

End plates in steam space: Material Steel Tensile strength 28/30 Tons Thickness 1 1/16" Pitch of stays 2" x 1 1/8"

How are stays secured Bombs nuts & washers Working pressure by Rules 218 Lbs.

Tube plates: Material {front Steel back Tensile strength {28/30 Tons Thickness {15/16" 7/8" Working pressure {front 209 Lbs. back 261 "

Mean pitch of stay tubes in nests 10' 4" Pitch across wide water spaces 14" Working pressure {front 209 Lbs. back 261 "

Girders to combustion chamber tops: Material Steel Tensile strength 29/30 Tons Depth and thickness of girder at centre 9 1/2" x 1 3/4" Length as per Rule 36 13/32" Distance apart 9" No. and pitch of stays in each 3 @ 8 3/4" Working pressure by Rules 226 Lbs. Combustion chamber plates: Material Steel

Tensile strength 28/30 Tons Thickness: Sides 3/4" Back 23/32" Top 23/32" Bottom 3/4"

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

Working pressure by Rules 212 Lbs. Front plate at bottom: Material Steel Tensile strength 28/30 Tons

Thickness 15/16" Lower back plate: Material Steel Tensile strength 28/30 Tons Thickness 29/32"

Pitch of stays at wide water space 14' x 9" Are stays fitted with nuts or riveted over nuts

Working Pressure 209 Lbs. Main stays: Material Steel Tensile strength 28/32 Tons

Diameter {At body of stay, or Over threads 3 3/4" No. of threads per inch 6 Area supported by each stay 360 sq. in.

Working pressure by Rules 222 Screw stays: Material Steel Tensile strength 28/30 Tons

Diameter {At turned off part, or Over threads 1 7/8" 1 3/4" No. of threads per inch 9 Area supported by each stay 85.5 sq. in.

Working pressure by Rules 222 lb. Are the stays drilled at the outer ends ho Margin stays: Diameter ^{At turned off part,} 2" + 17/8"
No. of threads per inch 9 Area supported by each stay 103.5 Working pressure by Rules 225 lb.
Tubes: Material Iron External diameter ^{Plain} 3 1/2" Thickness ^{Stay} 3/8" + 5/16" No. of threads per inch 9
Pitch of tubes 4 3/4" x 5 1/4" Working pressure by Rules 215 lb. Manhole compensation: Size of opening in
shell plate 16" x 12" Section of compensating ring 34" x 27" x 1 1/2" No. of rivets and diameter of rivet holes 32 @ 1 1/2"
Outer row rivet pitch at ends 8 5/8" Depth of flange if manhole flanged
Tensile strength Thickness of shell Description of longitudinal joint
Diameter of rivet holes Pitch of rivets Percentage of strength of joint ^{Plate}
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} AMOS & SMITH LTD. ^{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 22 inclusive for boilers been complied with

The foregoing is a correct description,
For AMOS & SMITH LTD.

Manufacturer.

Dates of Survey ^{During progress of}
while ^{work in shops - -}
building ^{During erection on}
^{board vessel - -}

See attached report
on Machinery.

Are the approved plans of boiler and superheater forwarded herewith
(If not state date of approval.)
Total No. of visits 1

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

This boiler has been built under special Survey & in accordance with the approved plan. It has been satisfactorily fitted on board, tried under steam, & its safety valves adjusted as above.

The invoices were forwarded with reports on sister vessels
"Benjamin" & "Helder"

T.M.C.

Chapman Engine report

Survey Fee <u>£ 100</u>	When applied for, <u>192</u>
Travelling Expenses (if any) <u>£ 100</u>	When received, <u>192</u>

John H. Mackenzie
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

WED. 23 APR 1930

Assigned

See attached
J.E. Rpt



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Foundation