

# REPORT ON BOILERS.

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 17 April 1930  
 Reg. Book. 10712 on the Steam Trawler **CLEVELA** (Number of Visits 24) Gross Tons 355.33 Net Tons 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 Flutwood.

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

Manufacturers of Steel **Appledy Iron Works Co Ltd** (Letter for Record **(S)**)  
 Total Heating Surface of Boilers **1475 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 **Yes**  
 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 **4"** Is the bottom of the boiler insulated **Yes**  
 Largest internal dia. of boilers **14'-6"** Length **10'-8"** Shell plates: Material **Steel** Tensile strength **29/30 Tons**  
 Thickness **19/32"** Are the shell plates welded or flanged **Yes** Description of riveting: circ. seams { end **5R.** inter. **3.81"**  
 long. seams **T.R. 5/8"** Diameter of rivet holes in { circ. seams **19/32"** Pitch of rivets { **8 7/8"**  
 Percentage of strength of circ. end seams { plate **88.0** rivets **42.0** Percentage of strength of circ. intermediate seam { plate **85.1** rivets **86.3**  
 Percentage of strength of longitudinal joint { plate **85.1** rivets **86.3** 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 **13/16"** Pitch of stays **20" x 1 1/8"**  
 How are stays secured **Woods nuts & washers** Working pressure by Rules **218 lbs.**  
 Tube plates: Material { front **Steel** back **Steel** Tensile strength { **28/30 Tons** Thickness { **15/16"** **7/8"**  
 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 **29/33 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 **Woods**  
 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 **Woods**  
 Working Pressure **209 lbs.** Main stays: Material **Steel** Tensile strength **28/32 Tons**  
 Diameter { At body of stay, **3/4"** or **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, **1 7/8"** or **1 3/4"** No. of threads per inch **9** Area supported by each stay **85.5 sq in**

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Working pressure by Rules 222 lbs. Are the stays drilled at the outer ends no Margin stays: Diameter <sup>At turned off part,</sup> 2" + 17/8"  
 No. of threads per inch 9 Area supported by each stay 103.5 Working pressure by Rules 205 lbs.  
 Tubes: Material Iron External diameter <sup>Plain</sup> 3 1/2" Thickness <sup>Stay</sup> 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 lbs. 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 \_\_\_\_\_ Steam Dome: Material \_\_\_\_\_  
 Tensile strength \_\_\_\_\_ Thickness of shell \_\_\_\_\_ Description of longitudinal joint \_\_\_\_\_  
 Diameter of rivet holes \_\_\_\_\_ Pitch of rivets \_\_\_\_\_ Percentage of strength of joint <sup>Plate</sup> \_\_\_\_\_  
 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 <sup>Tubes</sup> \_\_\_\_\_ <sup>Steel castings</sup> \_\_\_\_\_ Internal diameter and thickness of tubes \_\_\_\_\_  
 Number of elements \_\_\_\_\_ Material of tubes \_\_\_\_\_ Tensile strength \_\_\_\_\_ Thickness \_\_\_\_\_ Can the superheater be shut off and the boiler be worked separately \_\_\_\_\_  
 Material of headers \_\_\_\_\_ Tensile strength \_\_\_\_\_ Thickness \_\_\_\_\_ Can the superheater be shut off and the boiler be worked separately \_\_\_\_\_  
 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 <sup>During progress of work in shops - -</sup> See attached report on Machy. Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.) \_\_\_\_\_  
<sup>while building</sup> <sup>During erection on board vessel - -</sup> \_\_\_\_\_ 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 - Benarua & Sylene

T.M.C.

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

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

Committee's Minute WED. 23 APR 1930  
 Assigned See attached J.E. Rpt