

## REPORT ON BOILERS.

No. 52122.

Received at London Office

29 SEP 1943

Date of writing Report  
10-4-43

When handed in at Local Office SEP 1943

Port of HULL.

Not in Survey held at HULL.

Date First Survey

16. 2. 43

Last Survey

1943.

on the H.M. Trawler.

"BRYHER"

J 7703.

(Number of visits

46)

Gross

458

Tons

Net

145.

Built at BEVERLEY

By whom built Cook, Welton &amp; Gemmell Ltd.

Yard No. 712

When built 1943

Engines made at HULL

By whom made Chas. O. Holmes Ltd.

Engine No. 1649

When made

Boilers made at HULL.

By whom made Chas. O. Holmes Ltd.

Boiler No. 1649

When made

Nominal Horse Power 156.

Owners THE ADMIRALTY.

Port belonging to

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

Manufacturers of Steel Appleby, Rotherham Steel Co. Ltd. Colville

(Letter for Record

S.

Total Heating Surface of Boilers 2650 sq. ft.

Is forced draught fitted Yes.

Coal or Oil fired Coal

No. and Description of Boilers One - S. B.

Working Pressure 200 lb./sq. in.

Tested by hydraulic pressure to 350 lb./sq. in. Date of test 9-4-43. No. of Certificate 4187. Can each boiler be worked separately —

Area of Firegrate in each Boiler 63 sq. ft. No. and Description of safety valves to each boiler 2 Spring loaded

Area of each set of valves per boiler {per Rule 15.4 sq. ft. as fitted 16.6 sq. ft. Pressure to which they are adjusted 200 lb./sq. in. 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 2'-0".

Is oil fuel carried in the double bottom under boilers No

Smallest distance between shell of boiler and tank top plating None.

Is the bottom of the boiler insulated No

Largest internal dia. of boilers 14'-9 3/8". Length 11'-6".

Shell plates: Material Steel Tensile strength 29-33 ton/ft. sq.

Thickness 1 5/16". Are the shell plates welded or flanged No.

Description of riveting: circ. seams {end D.R. Cap. inter. None

long. seams T.R., D.B.S. Diameter of rivet holes in {circ. seams 1 3/8". long. seams 1 3/8".

Pitch of rivets {4" 9 1/2"

Percentage of strength of circ. end seams {plate 65.6%. rivets 44.7%.

Percentage of strength of circ. intermediate seam {plate 85.5%. rivets 88.5%.

Percentage of strength of longitudinal joint {plate 88.5%. rivets 88.8%.

Thickness of butt straps {outer 1 1/8". inner 1 1/8".

No. and Description of Furnaces in each Boiler 3 - 20 sq. ft. Deighra section.

Material Steel Tensile strength 26-30 ton/ft. sq.

Smallest outside diameter 3'-6 3/8".

Length of plain part {top 19 1/2". bottom 19 1/2".

Description of longitudinal joint Weld

Dimensions of stiffening rings on furnace or c.c. bottom —

End plates in steam space: Material Steel

Tensile strength 26-30 ton/ft. sq.

Thickness 1 1/32".

Pitch of stays 21" x 20"

How are stays secured Nuts inside case.

Tube plates: Material {front Steel back Steel

Tensile strength {26-30 ton/ft. sq. do.

Thickness {7/8" 3/32"

Mean pitch of stay tubes in nests 9 1/16".

Pitch across wide water spaces 13 5/8".

Girders to combustion chamber tops: Material Steel

Tensile strength 28/32 ton/ft. sq.

Depth and thickness of girder

at centre 8 1/4" x 1 3/8".

Length as per Rule 2'-7 1/32".

Distance apart 10 3/4".

No. and pitch of stays

in each 2 - 9 3/8".

Combustion chamber plates: Material Steel

Tensile strength 26-30 ton/ft. sq.

Thickness: Sides 2 5/32"

Back 3/4"

Top 2 5/32"

Bottom 3/2"

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

Front plate at bottom: Material Steel.

Tensile strength 26-30 ton/ft. sq.

Thickness 7/8".

Lower back plate: Material Steel

Tensile strength 26-30 ton/ft. sq.

Thickness 7/8"

Pitch of stays at wide water space 14 1/2" x 9 3/8".

Are stays fitted with nuts or riveted over Nuts.

Main stays: Material Steel

Tensile strength 28-32 ton/ft. sq.

Diameter {At body of stay, 3 1/8". or Over threads —

No. of threads per inch 6.

Screw stays: Material Steel

Tensile strength 26-30 ton/ft. sq.

Diameter {At turned off part, 1 3/8". or Over threads —

No. of threads per inch 9.



# "BRYHER"

Are the stays drilled at the outer ends No. Margin stays: Diameter 2" At turned off part, or Over threads 2"

No. of threads per inch 9

Tubes: Material Steel External diameter 2 3/4" Plain 2 3/4" Stay 2 3/4" Thickness 8.W.G. 1/4, 3/16, 1/8, 7/16 No. of threads per inch 9

Pitch of tubes 3 1/8" x 3 3/8" Manhole compensation: Size of opening in shell plate 12" (x 16") Section of compensating ring 1 5/16" x 20" No. of rivets and diameter of rivet holes 15 - 1 5/32"

Outer row rivet pitch at ends 10 1/8" Depth of flange if Bottom manhole flanged 3 1/4" Steam Dome: Material None

Tensile strength \_\_\_\_\_ Thickness of shell \_\_\_\_\_ Description of longitudinal joint \_\_\_\_\_

Diameter of rivet holes 5/16" Pitch of rivets \_\_\_\_\_ Percentage of strength of joint Plate Rivets

Internal diameter \_\_\_\_\_ Thickness of crown \_\_\_\_\_ No. and diameter of stays \_\_\_\_\_ Inner radius of crown \_\_\_\_\_

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 None Manufacturers of Tubes Steel forgings 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 \_\_\_\_\_

Pressure to which the safety valves are adjusted \_\_\_\_\_ Hydraulic test pressure: \_\_\_\_\_

tubes \_\_\_\_\_ forgings and 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.

Manufacturer.

Dates of Survey Feb. 16, Mar. 11-26-31, Apr. 9-16-20-28, May 3-14-21, June 10-11-19, July 6, 29. Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.) ✓

During progress of work in shops - - - As on machinery report Total No. of visits 46

During erection on board vessel - - -

Is this Boiler a duplicate of a previous case Yes If so, state Vessel's name and Report No. H.M.C. BIRCH. H.V.L. Rpt 50672

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

This boiler has been constructed under Special Survey in accordance with the approved Admiralty plans and the Rule.

The Workmanship and materials are good, and when subjected to a hydraulic test of 250 lb/sq. in. it was found satisfactory in every respect.

The above boiler installed on HMT BRYHER at Hull in accordance with the Rule requirements, examined under them, safety valves adjusted as overleaf, accumulation test held and boiler examined after all tests. Ph. Shields

Survey Fee £ \_\_\_\_\_ When applied for, 19 \_\_\_\_\_

Travelling Expenses (if any) £ \_\_\_\_\_ When received, 19 \_\_\_\_\_

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI 17 SEP 1943

Assigned see minute on 26. Rpt.