

## REPORT ON WATER TUBE BOILERS.

No. 60057

Received at London Office

AUG 10 1938

Date of writing Report 2 Augt 1938 When handed in at Local Office 6: 8: 1938 Port of Glasgow.

No. in Survey held at Renfrew. Date, First Survey 24: 8: 37 Last Survey 4 Augt 1938

Reg. Bk. on the Boiler Contract 1331 for Swan Hunter Wigham Richardson's No 1570. Number of Visits 65 Tons { Gross 8314 Net 3993

Master \_\_\_\_\_ Built at \_\_\_\_\_ By whom built \_\_\_\_\_ When built \_\_\_\_\_

Engines made at \_\_\_\_\_ By whom made \_\_\_\_\_ When made \_\_\_\_\_

Boilers made at Renfrew. By whom made Babcock Wilcox Ltd When made 1938.

Registered Horse Power \_\_\_\_\_ Owners \_\_\_\_\_ Port belonging to \_\_\_\_\_

WATER TUBE BOILERS—MAIN, ~~AUXILIARY, OR, DONKEY~~ Manufacturers of Steel Colvilles Ltd.

(Letter for Record \_\_\_\_\_) Date of Approval of plan 11-13/37 22/10/37 23-24/9/37 Number and Description of Type 3 B+W Type

of Boilers 3 B+W Type Working Pressure 450 lb. Tested by Hydraulic Pressure to 725 lb. Date of Test 8/6/38.

No. of Certificate \_\_\_\_\_ Can each boiler be worked separately YES. Total Heating Surface of Boilers 17895 sq. ft.

Is forced draught fitted YES Area of fire grate (coal) in each Boiler 154 sq. ft. Total grate area of boilers in vessel including Main and Auxiliary 462 sq. ft. No. and type of burners (oil) in each boiler \_\_\_\_\_ No and description of safety valves on each boiler 1-2 1/2" bble Imp: High Lift. Area of each valve 4.9 sq. in. Pressure to which they are adjusted \_\_\_\_\_

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 \_\_\_\_\_ Height of Boiler 23' 6" App: Width and Length 21' 7" x 18' 6" App:

Steam Drums:—Number in each boiler ONE. Inside diameter 3' 6" Material of plates MILD STEEL. Thickness 1 5/8"

Range of Tensile Strength 28/32 TONS/IN<sup>2</sup> Are drum shell plates welded or flanged FUSION WELDED. Description of riveting:—

Cir. seams \_\_\_\_\_ long. seams \_\_\_\_\_ Diameter of rivet holes in long. seams \_\_\_\_\_ Pitch of Rivets \_\_\_\_\_

Lap of plate or width of butt straps \_\_\_\_\_ Thickness of straps \_\_\_\_\_ Percentage strength of long. joint:—Plate \_\_\_\_\_ Rivet \_\_\_\_\_

Diameter of tube holes in drum 4 3/4 MAX Pitch of tube holes 7 1/4" Percentage strength of shell in way of tubes 43.58 MIN %.

If Drum has a flat side state method of staying \_\_\_\_\_ Depth and thickness of girders at centre (if fitted) \_\_\_\_\_ Distance apart \_\_\_\_\_ Number and pitch of stays in each \_\_\_\_\_ Working pressure by rules 450 LBS/IN<sup>2</sup>

Steam Drum Heads or Ends:—Material MILD STEEL Thickness 1 1/8" Radius or how stayed 3' 0"

Size of Manhole or Handhole 11" x 15" Water Drums:—Number in each boiler \_\_\_\_\_ Inside Diameter \_\_\_\_\_

Material of plates \_\_\_\_\_ Thickness \_\_\_\_\_ Range of tensile strength \_\_\_\_\_ Are drum shell plates welded or flanged \_\_\_\_\_ Description of riveting:—Cir. seams \_\_\_\_\_ long. seams \_\_\_\_\_ Diameter of Rivet Holes in long. seams \_\_\_\_\_ Pitch of rivets \_\_\_\_\_ Lap of plates or width of butt straps \_\_\_\_\_ Thickness of straps \_\_\_\_\_

Percentage strength of long. joint:—Plate \_\_\_\_\_ Rivet \_\_\_\_\_ Diameter of tube holes in drum \_\_\_\_\_ Pitch of tube holes \_\_\_\_\_

Percentage strength of drum shell in way of tubes \_\_\_\_\_ Water Drum Heads or Ends:—Material \_\_\_\_\_ Thickness \_\_\_\_\_ Radius or how stayed \_\_\_\_\_ Size of manhole or handhole \_\_\_\_\_

Material Mild Steel Thickness 3/4" + 5/8" Tested by Hydraulic Pressure to 725 LBS. Material of Stays \_\_\_\_\_

Area at smallest part \_\_\_\_\_ Area supported by each stay \_\_\_\_\_ Working Pressure by Rules 450 LBS. Tubes:—Diameter 1" + 1 1/8"

Thickness 2.55, 4, 7 + 9, 1.59. Number 27 @ 4 1/2" 6 x 6 1/2" ID. MUD DRUM. NO: PER BOILER. PER BOILER.

Percentage strength of Joint \_\_\_\_\_ Diameter \_\_\_\_\_ Thickness of shell plates 3/4" Material Steel.

Description of longitudinal joint Solid drawn. Diameter of Rivet Holes \_\_\_\_\_ Pitch of Rivets \_\_\_\_\_ Working Pressure of shell \_\_\_\_\_

by Rules 450 LBS. Crown or End Plates:—Material \_\_\_\_\_ Thickness \_\_\_\_\_ How stayed \_\_\_\_\_

UPPER HEATER. Type B+W. Date of Approval of Plan 23/9/37. Tested by Hydraulic Pressure to 725 LBS.

Date of Test \_\_\_\_\_ Is a safety valve fitted to each section of the superheater which can be shut off from the Boiler yes.

Diameter of Safety Valve 2 1/2" Imp. H. Lift Pressure to which each is adjusted \_\_\_\_\_ Is easing gear fitted \_\_\_\_\_

Is a drain cock or calce fitted at topst point of superheater yes Number, diameter, and thickness of tubes 90 @ 1 1/2" x 8.155.

Spare Gear. Tubes 25 @ 1 1/2" (Return) Gaskets or joints:—Manhole \_\_\_\_\_ Handhole 6 @ 3 3/4" 5 HTR. Handhole plates 2 @ 3 3/4" 5 HTR.

24 @ 1 1/2" 5 HTR.

The foregoing is a correct description, Babcock Wilcox, Ltd. Manufacturer.

Dates of Survey { During progress of work in shops - - - { 1937 Aug: 24-31 Sep: 13 Oct: 1-4 Nov: 4-8  
while building { During erection on board vessel - - - { Dec: 9-16 20-21 24 (1938) Jan: 10-12 17-20 25-26  
Feb: 1-4 9-10 11-14 18-21 24 Mar: 2-3 4-9 10

Is the approved plan of boiler forwarded herewith Yes. See attached list of plans sent to Newcastle Office.

Total No. of visits 65

11-15-16-17-26-29 Apr: 6-11-14-19-20-21-26-27-29 May: 2-4-5-6-13-19-23-30 June: 3-8-10-16-27-29  
July: 6 Aug: 4

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) These boiler parts have been manufactured under special survey, in accordance with approved plans & the Society's Rules. They have been forwarded to Newcastle district for completion & installation in M<sup>rs</sup> Swan Hunter Wigham Richardson's No 1570.

See Newcastle Rpt on Boilers and 12/11/38.

Survey Fee 2/3 to 4/6 £ 48-2-0  
Travelling Expenses 1/3 to 2/6 £ 24-1-0  
for hire portion No 96890.

When applied for, at Newcastle  
When received, 19/11 1938

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 9 - AUG 1938

Assigned TRANSMIT TO LONDON

TUE 22 NOV 1938

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