

## REPORT ON WATER TUBE BOILERS

No. 5395 N.S.W.

Received at London Office

25 AUG 1949

Date of writing Report 7-7-1949 When handed in at Local Office 7-7-1949 Port of SYDNEY &amp; NEWCASTLE N.S.W.

No. in Reg. Bk. 90949 Survey held at SYDNEY N.S.W. &amp; NEWCASTLE N.S.W. Date: First Survey 19-1-48 Last Survey 29-6-1949 on the STEEL SCREW STEAMER "DENMAN" (Number of Visits 16)

Master Built at NEWCASTLE N.S.W. By whom built STATE DOCKYARD NEWCASTLE N.S.W. When built 1949

Engines made at SUNDERLAND By whom made N.E. MARINE ENG. CO. (1938) LTD. When made 1948

Boilers made at SYDNEY &amp; NEWCASTLE N.S.W. By whom made BABCOCK &amp; WILCOX LTD. When made 1949

Registered Horse Power Owners COMMONWEALTH OF AUSTRALIA Port belonging to PENINSULAR &amp; TRANS-ALPINE

WATER TUBE BOILERS—MAIN, AUXILIARY, OR DONKEY.—Manufacturers of Steel BROKEN HILL PTY. CO. LTD.

(Letter for Record S.) Date of Approval of plan 26<sup>TH</sup> FEBRUARY 1948 Number and Description or Type of Boilers 2-B & W THREE PASS MARINE WITH SUPERHEATER Working Pressure 240 lbs/sq. in. Tested by Hydraulic Pressure to 425 lbs/sq. in. Date of Test 4-8-48

No. of Certificate 736 &amp; 737 Can each Boiler be worked separately YES Total Heating Surface of Boilers 1518 sq. ft. 5/11 348 sq. ft. 5/11

Is forced draught fitted YES Area of fire grate (coal) in each Boiler Total grate area of boilers in vessel including Main and Auxiliary No. and type of burners (oil) in each boiler 2-MARK I SINGLE FLOW. No. and description of safety valves on each boiler 1-DOUBLE SPRING HIGH LIFT V Area of each valve 3.142" Pressure to which they are adjusted 245 lbs/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 4'6" Height of Boiler 20'-6" Width and Length 9'-0" x 18'-0"

Steam Drums:—Number in each boiler ONE Inside diameter 3'-6" Material of plates M.S. BOILER QUALITY Thickness 2 1/32" &amp; 1 1/16"

Range of Tensile Strength 28-32 TONS/SP. INCH Are drum shell plates welded or flanged NO Description of riveting: Cir. seams LAP DOUBLE RIV. long. seams D.R. WITH D.B.S. Diameter of rivet holes in long. seams 3 1/32" Pitch of Rivets 3.6838"

Lap of plate or width of butt straps 9 1/16" Thickness of straps 2 1/32" Percentage strength of long. joint:—Plate 73.70 Rivet 90.00

Diameter of tube holes in drum 4.056" Pitch of tube holes 7" Percentage strength of shell in way of tubes 41.6

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 Steam Drum Heads or Ends:—Material M.S. 26-30 TONS THICKNESS PLAIN 3/4" MANHOLE 7/8" Radius or how stayed 36"

Size of Manhole or Handhole 15" x 11" 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 Headers or Sections:—Number 10

Material M.S. 28-32 TONS THICKNESS 1/2" Tested by Hydraulic Pressure to 455 lbs/sq. in. Material of Stays Tubes:—Diameter 1 3/8" &amp; 4" O.D.

Area at smallest part 20.25 sq. in. Area supported by each stay Working Pressure by Rules

Thickness 1 3/8" &amp; 4" L.S.G. 4" L.S.G. Number 16-76-9 L.S.G. 4"-10 Steam Dome or Collector:—Description of Joint to Shell

Percentage strength of Joint Diameter Thickness of shell plates Material

Description of longitudinal joint Diameter of Rivet Holes Pitch of Rivets Working Pressure of shell by Rules Crown or End Plates:—Material Thickness How stayed

SUPERHEATER. Type INTERDECK CONVECTION Date of Approval of Plan APPROVED AT GLS Tested by Hydraulic Pressure to 420 lbs/sq. in.

Date of Test 13.4.49 S. 20.4.49 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" Pressure to which each is adjusted 220 lbs/sq. in. Is easing gear fitted YES

Is a drain cock or valve fitted at lowest point of superheater YES. Number, diameter, and thickness of tubes 128 1" DIA. 11 SWG.

Spare Gear. Tubes 18 Gaskets or joints:—Manhole 6 Handhole 1 Set. Handhole plates 12

Free also spare gear list forwarded with RPT. A The foregoing is a correct description, BABCOCK &amp; WILCOX OF AUSTRALIA PTY. LIMITED G. F. Kell Manufacturer.

Dates of Survey During progress of work in shops 19-1-48, 16-2-48, 7-5-48, 4-8-48. Is the approved plan of boiler forwarded herewith

while building During erection on board vessel 29-11-48, 17-12-48, 9-1-49, 4-3-49 Total No. of visits 16

13-20-4-49, 27-5-49, 15, 20-29-6-49

GENERAL REMARKS (State quality of workmanship, opinions as to class, &amp;c.) THESE BOILERS HAVE BEEN BUILT UNDER SPECIAL SURVEY IN ACCORDANCE WITH THE RULES &amp; APPROVED PLANS, THE MATERIALS &amp; WORKMANSHIP ARE GOOD. THEY HAVE BEEN PROPERLY INSTALLED IN THE SHIP, TESTED UNDER WORKING CONDITIONS &amp; FOUND SATISFACTORY &amp; IN OUR OPINION ARE ELIGIBLE TO BE CLASSED AS RECOMMENDED IN MACHINERY REPORT.

Survey Fee £ See: When applied for, 19

Travelling Expenses (if any) £ Rpt. 4: When received, 19

Committee's Minute FRI. 28 OCT 1949

Assigned See F.E. Mchly. rpt.

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