

REPORT ON WATER TUBE BOILERS.

No. 19750 (6)

Received at London Office

Date of writing Report 9th Sept 1944 When handed in at Local Office 19 Port of Sydney, N. S. W.No. in Survey held at Newcastle N.S.W. & Whyalla S.A. Date, First Survey 10th March 43 Last Survey 7th Sept 1944
Reg. Bk. on the S.S. "RIVER DERWENT" (Number of Visits 31) Tons Gross 5109 Net 2681

Master Built at Whyalla S.A. By whom built Broken Hill Pty Co. Ltd When built 1944

Engines made at Port Kembla N.S.W. By whom made Australian Iron & Steel Ltd When made 1944

Boilers made at Newcastle N.S.W. & Renfrew By whom made Broken Hill Pty Co. Ltd & Babcock & Wilcox When made 1944

Registered Horse Power 580 566 Owners Commonwealth of Australia Port belonging to Port Adelaide.

WATER TUBE BOILERS—MAIN, AUXILIARY, OR DONKEY.—Manufacturers of Steel Broken Hill Pty Co. Ltd

(Letter for Record) Date of Approval of plan 26/8/41 Number and Description or Type of Boilers 2 W.T. (B & W Type) Working Pressure 240 Tested by Hydraulic Pressure to 410 lbs Dates of Test 29/6/44 & 5/7/44

No. of Certificate 1390. Can each boiler be worked separately Yes Total Heating Surface of Boilers 2 @ 3606 = 7212 sq ft

Is forced draught fitted Yes Area of fire grate (coal) in each Boiler 104.5 sq ft Total grate area of boilers in vessel including

Main and Auxiliary 209 sq ft No. and type of burners (oil) in each boiler 3 B & W atomising No. and description of safety valves on

each boiler One double 2 1/2" High-lift Area of each valve 4.9 sq ins (x2) Pressure to which they are adjusted 240 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 Height of Boiler approx 22' 9" from tank top Width and Length 14' 6" x 17' 6"

Steam Drums:—Number in each boiler One Inside diameter 3' 6" Material of plates Boiler quality M.S. Thickness 1 1/2" & 1 1/8"

Range of Tensile Strength 28/32 tons per sq in Are drum shell plates welded or flanged No. Description of riveting:—

Cir. seams D.R. long. seams D.R. with D.B.S. Diameter of rivet holes in long. seams 29/32" Pitch of Rivets 3.5"

Lap of plates or width of butt straps 9 5/8" & 9 1/8" Thickness of straps 19/32" Percentage strength of long. joint:—Plate 74.6 Rivet 91.4

Diameter of tube holes in drum 4" Pitch of tube holes 7" Percentage strength of shell in way of tubes 77.4 of 1 1/2" plate 74.4 of 1 1/8" plate

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 250 lbs Steam Drum Heads or Ends:—Material M.S. (flanging) Thickness 15/16" Radius or how stayed 3' 0"

Size of Manhole or Handhole 15" x 11" Mud Water Drums:—Number in each boiler One Inside Diameter 7 1/2" sq section

Material of plates M.S. Thickness 3/4" Range of tensile strength 28/32 tons Are drum shell plates welded

or flanged Ends welded 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 4 3/4" Pitch of tube holes 7"

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 19 per boiler

Material M.S. Thickness 11/32" (min.) Tested by Hydraulic Pressure to 410 lbs Material of Stays

Area at smallest part Area supported by each stay Working Pressure by Rules Tubes:—Diameter 4" & 1 1/8"

Thickness 1/4", 5/8" & 1 S.G. Number 590 - 1 1/8" per boiler 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" Date of Approval of Plan 30/8/41 Tested by Hydraulic Pressure to 410 lbs

Dates of Test 29/6/44 & 5/7/44 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" (High-lift) Pressure to which each is adjusted 220 lbs Is easing gear fitted Yes

Is a drain cock or valve fitted at lowest point of superheater Yes Number, diameter, and thickness of tubes 84 - 1 1/2" - 8 L.S.G.

Spare Gear. Tubes 18 Gaskets or joints:—Manhole 6 Handhole 1000 Handhole plates 12

4" - 5 L.S.G. & 3 L.S.G. bottom 1 1/8" - 8 L.S.G.

The foregoing is a correct description,
BROKEN HILL PTY. CO. LTD.,
SHIPBUILDING YARD, Manufacturer.

WHYALLA per A. D. Gifford

Dates During progress of 1943:—March 10th, April 5th, May 21st, June 23rd, 28th Is the approved plan of boiler forwarded herewith NoSurvey while building During erection on 1944:—Feb 25th, 28th, March 13, 20, April 11, 15, 21 Total No. of visits 31

board vessel -- May 12, 18, 31, June 3, 6, 14, 22, 29 July 4, 5, Aug 14, 15, 16, 17, Sept 1, 7.

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

Vessel have been built under Special Survey in accordance with the Rules & Approved

Plans & the materials & workmanship are good. They have been fitted on board in an efficient

manner & with their mechanical stokers & oil burning installation, tested under working

conditions found satisfactory - now eligible for record recommended in Machinery Report.

Survey Fee ... £ ... When applied for, 19

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

Fee charged on Machinery Rpt

Committee's Minute

Assigned see minute on SE Rpt.

FRI. 3 NOV 1944

Engineer Surveyor to Lloyd's Register of Shipping.

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