

# REPORT ON WATER TUBE BOILERS.

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Date of writing Report 15th Nov 1940. When handed in at Local Office 19 Port of Sourabaya, Java;

No. in Survey held at Soemenep & Sourabaya Dockyard etc. Date, First Survey 4th June '40, Last Survey 15th Oct, 1940.  
 Reg. Bk. on the steel single screw steamer "BORSUMY" Number of Visits 8 Tons { Gross 215,53  
 Master Built at Sourabaya By whom built N.V. Droogdok Mij. "Soerabaia" When built 1940.  
 Engines made at Sourabaya By whom made N.V. Droogdok Mij. "Soerabaia" When made 1940  
 Boilers made at Cowes, Isle of Wight By whom made White, J. Samuel & Co. Ltd. When made 1923  
 Registered Horse Power 41,4 Owners N.V. Borneo Sumatra Handel Mij. Port belonging to Bandjermasin.

## WATER TUBE BOILERS—MAIN, ~~AUXILIARY, OR DONKEY~~—Manufacturers of Steel Unknown,

Letter for Record One Yarrow. Date of Approval of plan Not yet approved, Number and Description or Type One Yarrow.  
 Working Pressure 220 lbs Tested by Hydraulic Pressure to 440 lbs Date of Test 17/8/40.  
 Can each boiler be worked separately - Total Heating Surface of Boilers 88 M<sup>2</sup> 83.6 = 900 #  
 forced draught fitted No Area of fire grate (coal) in each Boiler 24,8 Total grate area of boilers in vessel including  
 No. and type of burners (oil) in each boiler - No and description of safety valves on  
 each boiler 2 spring loaded Area of each valve 4,4 Pressure to which they are adjusted 220 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 11,5" Height of Boiler 8,5' Width and Length 8' 9,2'  
 Steam Drums:—Number in each boiler One Inside diameter 2' 3 3/4" Material of plates Mild steel Thickness 1/2"  
 Range of Tensile Strength unknown Are drum shell plates welded or flanged flanged Description of riveting:—  
 riveting double cover plate Diameter of rivet holes in long. seams 11/16" Pitch of Rivets 3-3/16"  
 riveting double lap/long. seams riveting Diameter of rivet holes in long. seams 11/16" Pitch of Rivets 3-3/16"  
 Rivets butt straps Thickness of straps 3/8" Percentage strength of long. joint:—Plate 77,5% Rivet 79,5%  
 Diameter of tube holes in drum 1 5/16" / 1 1/16" Pitch of tube holes 1 15/16" / 1 9/16" Percentage strength of shell in way of tubes 32,2% / 32% d=  
 Drum has a flat side state method of staying - Depth and thickness of girders at 1 5/16"  
 (fitted) - Distance apart - Number and pitch of stays in each - Working pressure  
 rules - Steam Drum Heads or Ends:—Material Mild steel Thickness 9/16" / 5/8" Radius 19"  
 Diameter of Manhole or Handhole 15" x 11" Water Drums:—Number in each boiler Two Inside Diameter 18"  
 Material of plates Mild steel Thickness 7/16" Range of tensile strength unknown Are drum shell plates welded  
 flanged flanged Description of riveting:—Cir. seams single lap riveting double cover plate riveting  
 long. seams 21/32" Pitch of rivets 3-1/16" Lap of plates or width of butt straps butt straps riveting Thickness of straps 5/16"  
 Percentage strength of long. joint:—Plate 78,5% Rivet 79% Diameter of tube holes in drum 1 1/4" / 1" Pitch of tube holes 1 15/16" / 1 9/16"  
 Percentage strength of drum shell in way of tubes 35,4% / 36% d=1 1/4" Water Drum Heads or Ends:—Material Mild steel Thickness 9/16"  
 Diameter 14" Size of manhole 13 1/2" x 11" Heads or Ends:—Number -  
 Material - Thickness - Tested by Hydraulic Pressure to - Material of Stays -  
 Area at smallest part - Area supported by each stay - Working Pressure by Rules - Tubes:—Diameter ext. 1 1/4" & 1"  
 Thickness 10 l.sq & 11 l.sq Number 160 & 900 ~~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  
 Rules - ~~Crown or End Plates~~—Material - Thickness - How stayed -

**HEATER.** Type - Date of Approval of Plan - Tested by Hydraulic Pressure to -  
 Date of Test - Is a safety valve fitted to each section of the superheater which can be shut off from the Boiler -  
 Diameter of Safety Valve - Pressure to which each is adjusted - Is easing gear fitted -  
 Is drain cock or valve fitted at lowest point of superheater - Number, diameter, and thickness of tubes -  
 Easing Gear. Tubes - Gaskets or joints:—Manhole - Handhole - Handhole plates -

The foregoing is a correct description,  
N.V. Droogdok Maatschappij, SOERABAYA  
 Manufacturer.

During progress of work in shops 4/6/40, 6/7/40, 17/8/40, Is the approved plan of boiler forwarded herewith  
 During erection on board vessel 17/8/40, 17 & 26/9/40, 7/10/40, & 15/10/40. Total No. of visits 8

**GENERAL REMARKS** (State quality of workmanship, opinions as to class, &c.)  
 This boiler has been in use in a Government vessel and 2 years ago steam installation was replaced by motor. Owing to difficulties in obtaining material, this boiler now put in, instead of already approved Scotch boiler, but merits in my opinion the approval of the Committee.

Survey Fee including into Machinery fee. : : When applied for, 19  
 Shipping Travelling Expenses (if any) £ : : When received, 19

J. H. ...  
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUE. 4 MAR 1941  
 signed See Sta. J.G. 4285

