

REPORT ON WATER TUBE BOILERS

No. 4445

Received at London Office MON. 9 OCT. 1922

Date of writing Report SEP. 14 1922 When handed in at Local Office 191 Port of PHILADELPHIA

No. in Survey held at CAMDEN, N. J. Date, First Survey JAN. 23rd Last Survey AUG. 29th 1922

Reg. Bk. on the TWIN SCREW STEAMER "KAMOI" Number of Visits 47 Gross Tons 0222 Net Tons 5704

Master — Built at CAMDEN By whom built NEW YORK S. B. CORP. When built 1922

Engines made at SCHENECTADY, N. Y. By whom made GEN. ELECTRIC CO. When made 1922

Boilers made at CAMDEN By whom made NEW YORK S. B. CORP. When made 1922

Registered Horse Power — Owners IMPERIAL JAPANESE NAVY Port belonging to —

WATER TUBE BOILERS—MAIN, AUXILIARY, OR DONKEY.—Manufacturers of Steel MIDVALE STEEL CO.

(Letter for Record S) Date of Approval of plan NOV. 17, 1921 Number and Description or Type of Boilers 4 WATER TUBE—EXPRESS TYPE Working Pressure 275 lbs Tested by Hydraulic Pressure to 463 lbs Date of Test APRIL 4, 6, 11, 15

Nos of Certificates 534, 5, 6, 7 Can each boiler be worked separately YES Total Heating Surface of Boilers 18572 sq ft

Is forced draught fitted YES Area of fire grate (coal) in each Boiler 104.47 sq ft Total grate area of boilers in vessel including Main and Auxiliary 417.88 sq ft No. and type of burners (oil) in each boiler 3—PEABODY No. and description of safety valves on each boiler TWO—SPRING LOADED Area of each valve 12.55 sq in Pressure to which they are adjusted 275 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 8 1/4 in Height of Boiler 13-4 in Width and Length 20-0 x 12-0 in

Steam Drums:—Number in each boiler ONE Inside diameter 4-2 in Material of plates O. H. STEEL Thickness 13/16 - 2 in

Range of Tensile Strength 28-32 TONS Are drum shell plates welded or flanged NO Description of riveting:—
Cir. seams D. R. LAP long. seams D. B. STRAPS Diameter of rivet holes in long. seams 13/32 Pitch of Rivets 5-178 in

Lap of plate or width of butt straps 10 7/8 in Thickness of straps 13/16 - 1/2 in Percentage strength of long. joint:—Plate 80 Rivet 83

Diameter of tube holes in drum 1 3/4 - 1 1/4 in Pitch of tube holes 2 13/16 - 1 7/8 in Percentage strength of shell in way of tubes 92.99 - 82.05

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 280 lbs

Steam Drum Heads or Ends:—Material O. H. STEEL Thickness 1 3/32 - 1 5/32 in Radius or how stayed 4-2 in

Size of Manhole or Handhole 12" x 16" Water Drums:—Number in each boiler TWO Inside Diameter 2-6 in

Material of plates O. H. STEEL Thickness 3/4 - 1 3/4 in Range of tensile strength 28-32 TONS Are drum shell plates welded or flanged NO Description of riveting:—Cir. seams D. R. LAP long. seams D. B. STRAPS Diameter of Rivet Holes in long. seams 1/32 Pitch of rivets 4.943 in Lap of plates or width of butt straps 10 7/8 in Thickness of straps 41/64 - 49/64 in

Percentage strength of long. joint:—Plate 79.1 Rivet 94 Diameter of tube holes in drum 1 3/4 - 1 1/4 in Pitch of tube holes 2 13/16 - 1 7/8 in

Percentage strength of drum shell in way of tubes 88.17 - 77.78 Water Drum Heads or Ends:—Material O. H. STEEL Thickness 27/32 in

Radius or how stayed 2-6 in Size of manhole or handhole 12" x 16" Headers or Sections:—Number NONE

Material — Thickness — Tested by Hydraulic Pressure to — Material of Stays —

Area at smallest part — Area supported by each stay — Working Pressure by Rules 286 Tubes:—Diameter 1 3/4 - 1 1/4 O. D.

Thickness No. 9, No. 11 B. W. G. Number 138 - 13 Steam Dome or Collector:—Description of Joint to Shell NONE

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 TUBULAR Date of Approval of Plan 14-4-22 Tested by Hydraulic Pressure to 463 lbs

Date of Test AUG. 15th 22 Is a safety valve fitted to each section of the superheater which can be shut off from the Boiler YES

Diameter of Safety Valve 1 in Pressure to which each is adjusted 280 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 46 UNITS 184 TUBES 1 1/4 - 10 B. W. G.

Spare Gear. Tubes 10% EACH SIZE Gaskets or joints:—Manhole — Handhole — Handhole plates —

The foregoing is a correct description,
New York Shipb. Corp. J. B. Crew, Manufacturer.

Dates of Survey } During progress of JAN. 23, 25, 27, FEB. 2, 7, 8, 13, 15, 17, 20, 27. Is the approved plan of boiler forwarded herewith YES.
while } work in shops -- MAR. 6, 9, 13, 14, 17, 20, 23, 24, 27, 29, APR. 4, 6.
building } During erection on } 7, 11, 13, 15, 20, 25, MAY. 5, 8, 12, 18, 20, 23, 25, 31. Total No. of visits 47.
board vessel } JUNE 19, 21, 29, JULY 10, 11, 20, 27, AUG. 3, 5.
} 29.

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

THE BOILERS HAVE BEEN BUILT UNDER SPECIAL SURVEY, THE MATERIALS AND WORKMANSHIP ARE OF GOOD DESCRIPTION, THEY HAVE BEEN BUILT IN ACCORDANCE WITH THE RULES AND APPROVED PLANS, THEY HAVE BEEN TESTED, TOGETHER WITH THE SUPERHEATERS BY HYDRAULIC PRESSURE TO 463 lbs. PER sq in & FOUND TIGHT & SOUND.

Survey Fee ... £ SEE RPT. } When applied for, 1922
Travelling Expenses (if any) £ 42. } When received, 191

J. B. Crew
Engineer Surveyor to Lloyd's Register of Shipping.

NEW YORK TUE. 26 SEP. 1922
Committee's Minute
Assigned See Phil. 4445

