

REPORT ON WATER TUBE BOILERS.

No. 2340

Date of writing Report Oct. 24, 1960 When handed in at Local Office 19 Port of Cleveland, Ohio
 Received at London Office
 No. in Survey held at Barberton, Ohio Date, First Survey April 24 Last Survey Sept. 16th, 1960
 Reg. Book. (Number of Visits 15)
 on the Two (2) MAIN WATER TUBE BOILERS
 Built at Uddevalle, Sweden By whom built Uddevalle A/B Yard No. 204 Tons Net
 Engines made at Barberton, Ohio By whom made Babcock & Wilcox Co Engine No. 415-4542 When built 1960
 Boilers made at Barberton, Ohio By whom made Babcock & Wilcox Co Boiler No. 415-4542 When made 1960
 HS for Register Book Owners Port belonging to

WATER TUBE BOILERS—MAIN, AUXILIARY OR DONKEY—Manufacturers of Steel Bethlehem Steel Co
 Date of Approval of plan May 27; Aug. 21st & Dec. 29, 1957 and Feb. 25, 1960
 of Boilers Two (2) Two Drum Type Working Pressure 705 psi Tested by Hydraulic Pressure to 1108 No. and Description or Type Various
 No. of Certificate Can each boiler be worked separately Total Heating Surface of Boilers See over Superheaters
 Half Economisers Is forced draught fitted Area of Fire Grate (coal) in each Boiler
 No. and type of burners (oil) in each boiler No. and description of safety valves on each boiler
 Area of each set of valves per boiler per rule Pressure to which they are adjusted as fitted
 Are they fitted with easing gear In case of donkey boilers state whether steam from main boilers can enter the donkey boiler
 Width and length See over Steam Drums: Number in each boiler One (1) Height of boiler See over
 Thickness of plates See over Range of tensile strength 70,000 psi min Inside diameter See over
 or flanged Welded If fusion welded, state name of welding firm Babcock & Wilcox Co Are drum shell plates welded See over
 for Class I vessels been complied with Yes Description of riveting:—Circ. seams long. seams
 Diameter of rivet holes in long. seams Pitch of rivets Thickness of straps Percentage strength of long. joint:—Plate Rivet Diameter of tube holes in drum 1.275" Pitch of tube holes 1.75"
 Percentage strength of shell in way of tubes 27.11% Steam Drum Heads or Ends:—Range of tensile strength 70,000 psi min
 Thickness of plates See over Radius or how stayed Ellipsoidal Size of manhole or handhole 12" x 16" Water Drums:—Number One (1)
 in each boiler See over Thickness of plates See over Range of tensile strength 70,000 psi Are drum shell plates welded or flanged Welded
 If fusion welded, state name of welding firm Babcock & Wilcox Co Have all the requirements of the Rules for Class I vessels been complied with Yes
 Description of riveting:—Circ. seams long. seams
 Diameter of rivet holes in long. seams Pitch of rivets Thickness of straps
 Percentage strength of long. joint:—Plate Rivet Diameter of tube holes in drum 1.275" Pitch of tube holes 1.75"
 Percentage strength of drum shell in way of tubes 27.11% Water Drum Heads or Ends:—Range of tensile strength 70,000 psi min
 Thickness of plates See over Radius or how stayed Ellipsoidal Size of manhole or handhole 12" x 16"
 Headers or Sections:—Number See over Material O H Steel Thickness 1" Tested by hydraulic pressure to 1108 psi
 Tubes:—Diameter See over Thickness Number Steam Dome or Collector:—Description of joint to shell Inside diameter Thickness of shell plates Range of tensile strength
 Description of longitudinal joint If fusion welded, state name of welding firm
 Have all the requirements for the Rules for Class I vessels been complied with Diameter of rivet holes
 Pitch of rivets Thickness of straps Percentage strength of long. joint plate rivet
 Crown or End Plates:—Range of tensile strength Thickness Radius or how stayed
SUPERHEATER. Drums or Headers:—Number in each boiler Three (3) Inside diameter 7-1/4" Square
 Thickness 1" Material Steel Range of tensile strength 60,000 psi min Are drum shell plates welded or flanged Seamless Pipe
 If fusion welded, state name of welding firm Have all the requirements of the Rules for Class I vessels been complied with
 Description of riveting:—Circ. seams long. seams
 Diameter of rivet holes in long. seams Pitch of rivets 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
 Drum Heads or Ends:—Thickness Range of tensile strength
 Radius or how stayed Size of manhole or handhole Number, diameter, and thickness of tubes
 Tested by hydraulic pressure to 1108 Date of test Various Is a safety valve fitted to each section of the superheater which can be shut off from the boiler
 No. and description of safety valves Area of each set of valves Pressure to which they are adjusted Is easing gear fitted
 Spare Gear. Has the spare gear required by the Rules been supplied

The foregoing is a correct description,

Dates During progress of April 29; May 4/24/25/31; July 14/22/29/ Manufacturer.
 Survey work in shops - Aug. 11/15/26/30; Sept. 9/14/16 Is the approved plan of boiler forwarded herewith No
 while During erection on
 building board vessel - Total No. of visits 15

this boiler a duplicate of a previous case. If so, state vessel's name and report No.

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c. These boilers and components have been built under survey and to approved plans. The workmanship is of good quality and in the opinion of the undersigned, they are considered suitable for installation aboard a vessel classed or intended for classification for a design pressure of 75 psi. See attached Report 10.

Survey Fee ... \$960.00 When applied for 10/27/60 19 FOR: Henry Dean, Acting Surveyor
 Travelling Expenses (if any) \$110.00 When received 19 J. D. Wallace and R. I. Aragon

Engineer Surveyor to Lloyd's Register of Shipping.

Date NOV 2 1960

Committee's Minute For the information of the Committee.

HEATING SURFACE (per Boiler)

Boiler	8065 sq. ft.
Waterwalls	655 sq. ft.
Superheaters	1185 sq. ft.
TOTAL	9905 sq. ft.

DRUM DATA

Inside radius of wrapper sheet
Inside radius of tube sheet
Thickness of wrapper
Thickness of tube
Thickness of blankhead
Thickness of manhead

Steam

Water

23-11/16"	15" ✓
22-15/64"	14-1/16" ✓
1-5/32"	25/32" ✓
4-1/16"	2-21/32" ✓
1-5/32"	25/32" ✓
1-27/32"	1-3/16" ✓

HEADERS (per Boiler)

No.

Side wall header	1
Rear wall header	2
Economizer header	2
Superheater header	3

TUBES (per boiler)

No.

Diameter

Thickness

1440	1-1/4" ✓	•105" ✓	Generating
240	1-1/2" ✓	•203" ✓	Economizer
188	2" ✓	•120" ✓	SW and RW
4	3-1/4" ✓	•375" ✓	SH Support
3	4-1/2" ✓	•340" ✓	RW Riser
48	1-1/4" ✓	•135" ✓	Superheater
116	1-1/4" ✓	•134" ✓	Superheater

Results of weld tests are attached to this Report.

Copies of this report sent to London, New York and Gothenburg.