

REPORT ON BOILERS.

Received at London Office

8 SEP 1943

Date of writing Report 30th July 1943 When handed in at Local Office 9th Aug. 1943 Port of MOBILE, ALABAMA

No. in Survey held at MOBILE Date, First Survey 13th April Last Survey 2nd July 1943
Reg. Book 85011 on the "ST. JAMES" (ex "WILLIAM C. McTARNAHAN") (Number of Visits 5) Tons Gross 7302
Net 5826

Built at Mobile, Ala. By whom built Alabama D.D. & S.B. Co. Yard No. 223 When built 1941
Engines made at Mt. Vernon, Ohio By whom made Cooper Bessemer Corp. Engine No. 2134-5 When made 1942
Boilers made at Boston, Mass. By whom made Boston Navy Yard Boiler No. - When made 1943
Owners U.S. War Shipping Administration Port belonging to Wilmington, Del.

VERTICAL DONKEY BOILER.

Made at Boston, Mass. By whom made Boston Navy Yard. Boiler No. - When made 1943 Where fixed Lower aft engine room.

Manufacturers of Steel Worth Steel Co.

Total Heating Surface of Boiler 403.7 sq. ft. Is forced draught fitted - Coal or Oil fired oil

No. and Description of Boilers One Vertical Tubular. Working pressure 110 lbs.

Tested by hydraulic pressure to 220 lbs. per sq. in. Date of test 12th May 1943 No. of Certificate -

Area of Firegrate in each Boiler 12.56 sq. ft. No. and Description of safety valves to each boiler Two Ashton Duplex

Area of each set of valves per boiler per rule 4 sq. in. Pressure to which they are adjusted 110 lbs. Are they fitted with easing gear yes
as fitted 6.28 sq. in.

State whether steam from main boilers can enter the donkey boiler no main boilers Smallest distance between boiler or uptake and bunkers or woodwork 18"

Is oil fuel carried in the double bottom under boiler no Smallest distance between base of boiler and tank top plating 36"

Is the base of the boiler insulated yes Largest internal dia. of boiler 5'-0" Height 10'-6"

Shell plates: Material steel Tensile strength 58,000 lbs. Thickness 3/8"

Are the shell plates welded or flanged girth weld Description of riveting: circ. seams { end S.R. long. seams S.R.O.B.
inter. -

Dia. of rivet holes in { circ. seams 13/16" Pitch of rivets { 2.06" Percentage of strength of circ. seams { plates 60.5 of Longitudinal joint { rivets 122.5
long. seams 13/16" 4-3/4 & 2-3/8" rivets 59.5 combined 91.6

Working pressure of shell by rules 124 lbs. per sq. in. Thickness of butt straps { outer 5/16"
inner 5/16"

Shell Crown: Whether complete hemisphere, dished partial spherical, or flat flat Material steel

Tensile strength 58,000 lbs. Thickness 1/2" Radius - Working pressure by rules -

Description of Furnace: Plain, spherical, or dished crown corrugated Material steel Tensile strength 58,000 lbs.

Thickness 13/32" External diameter { top 4'-4" Length as per rule 3'-11-1/8" Working pressure by rules 117 lbs.
bottom 4'-1"

Pitch of support stays circumferentially - and vertically - Are stays fitted with nuts or riveted over -

Diameter of stays over thread - Radius of spherical or dished furnace crown - Working pressure by rule -

Thickness of Ogee Ring - Diameter as per rule { D - Working pressure by rule -
a -

Combustion Chamber: Material - Tensile strength - Thickness of top plate -

Radius if dished - Working pressure by rule - Thickness of back plate - Diameter if circular -

Length as per rule - Pitch of stays - Are stays fitted with nuts or riveted over -

Diameter of stays over thread - Working pressure of back plate by rules -

Tube Plates: Material { front steel Tensile strength { 58,000 Thickness { 1/2" Mean pitch of stay tubes in nests approved.
back steel 58,000 1/2"

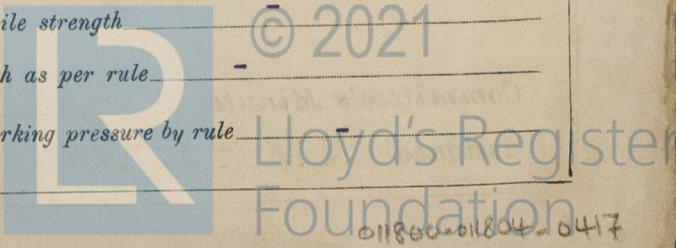
If comprising shell, Dia. as per rule { front - Pitch in outer vertical rows { Dia. of tube holes FRONT { stay - BACK { stay -
back - plain - plain -

Is each alternate tube in outer vertical rows a stay tube - Working pressure by rules { front -
back -

Girders to combustion chamber tops: Material - Tensile strength -

Depth and thickness of girder at centre - Length as per rule -

Distance apart - No. and pitch of stays in each - Working pressure by rule -



Crown stays: Material - Tensile strength - Diameter - at body of stay, or over threads

No. of threads per inch - Area supported by each stay - Working pressure by rules -

Screw stays: Material - Tensile strength - Diameter - at turned off part, or over threads No. of threads per inch -

Area supported by each stay - Working pressure by rules - Are the stays drilled at the outer ends -

Tubes: Material steel External diameter 1-3/4" plain Thickness .095" stay 1-3/4" Thickness .165"

No. of threads per inch 12 Pitch of tubes 2-3/4" x 2-3/4" Working pressure by rules approved

Manhole Compensation: Size of opening in shell plate none Section of compensating ring - No. of rivets and diameter -

of rivet holes - Outer row rivet pitch at ends - Depth of flange if manhole flanged -

Uptake: External diameter 4'-0 1/2" Thickness of uptake plate 1/4"

Cross Tubes: No. - External diameters - Thickness of plates -

Have all the requirements of Sections 14 to 22 inclusive for boilers been complied with yes

The foregoing is a correct description,
 ALABAMA DRY DOCK & SHIPBUILDING CO.
Adams
 Assistant General Superintendent

Dates of Survey During progress of work in shops - - - Is the approved plan of boiler forwarded herewith yes
(If not state date of approval.)

while building During erection on board vessel - - Apr. 13, May 12, June 8, 30, July 2 Total No. of visits 5

Is this Boiler a duplicate of a previous case yes If so, state Vessel's name and Report No. "PETROFUEL" N.Ns. 5325 Mob. 1786

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) This boiler was not examined during construction by Surveyors to this Society.

It was ordered by U.S. War Shipping administration from United States Navy Yard, Boston, Mass., who were not familiar with civilian requirements for fusion welded boilers and overlooked same (see letter and material test sheet attached).

The boiler has been examined internally and externally, the girth weld magnafluxed with satisfactory results and boiler examined under hydrostatic test pressure of 220 lbs. per square inch, the weld being well hammered under this pressure and all found tight and sound.

The workmanship is good.

The boiler afterwards examined under steam and safety valves adjusted to 110 lbs. per square inch. In my opinion this boiler is in good condition and eligible to be classed for a working pressure of 110 lbs. per square inch.

Survey Fee \$ 75.00 : } When applied for, Aug. 13 19 43.
 Travelling Expenses (if any) £ : : } When received, .. 19 ..

R. Rodgers
 Engineer Surveyor to Lloyd's Register of Shipping.
 Lloyd's Register Foundation

Committee's Minute NEW YORK AUG 18 1943
 Assigned NDB-743 - 110 LBS. per sq"