

REPORT ON WATER TUBE BOILERS.

No. 2414

12 SEP 1931

Received at London Office

Writing Report *8 Sept* 1931 When handed in at Local Office *9 Sept* 1931 Port of *Barrow*

Survey held at *Barrow* Date, First Survey *3rd Sept 1930* Last Survey *2nd Sept* 1931

on the *Twin Screw Turbo Electric "Strathnaver"* Number of Visits *34* Tons *Gross 22344 Net 13620*

Built at *Barrow* By whom built *Vickers-Armstrongs Ltd* When built *1931*

By whom made *The British Thomson Houston Co Ltd* When made *1931*

By whom made *Garrow & Co & Vickers-Armstrongs Ltd* When made *1931*

Owners *Peninsular & Oriental S.N. Co Ltd* Port belonging to *London*

Horse Power *6315*

WATER TUBE BOILERS—~~MAIN~~ AUXILIARY, OR ~~DONKEY~~—Manufacturers of Steel *Steel Works Scotland & English Steel Corp.*

for Record *S* Date of Approval of plan *29/5/30* Number and Description or Type *14/5/31*

Boilers *Two Garrow* Working Pressure *425 lbs* Tested by Hydraulic Pressure to *688 lbs* Date of Test *24/5/31*

of Certificate *444 & 449* Can each boiler be worked separately *Yes* Total Heating Surface of Boilers *6000 sq ft*

reed draught fitted *Yes* Area of fire grate (coal) in each Boiler *3 sq ft* Total grate area of boilers in vessel including *3 sq ft*

and Auxiliary *Single 2" Highlift* No. and type of burners (oil) in each boiler *3* No. and description of safety valves on *446 lbs*

boiler *Single 2" Highlift* Area of each valve *3.1416* Pressure to which they are adjusted *446 lbs*

they fitted with easing gear *Yes* In case of donkey boilers state whether steam from main boilers can enter the donkey boiler *Yes*

least distance between boilers or uptakes and bunkers or woodwork *2'-0"* Height of Boiler *15'-6"* Width and Length *14'-5" x 14'-9"*

Drums:—Number in each boiler *One* Inside diameter *50"* Material of plates *Steel* Thickness *1 1/8"*

of Tensile Strength *34 to 38 tons* Are drum shell plates welded or flanged *No* Description of riveting:—

seams *Double* long. seams *Solid* Diameter of rivet holes in long. seams *1 1/8"* Pitch of Rivets *1 1/2"*

of plate or width of butt straps *1 3/4"* Thickness of straps *1 1/8"* Percentage strength of long. joint:—Plate *33 1/3* Rivet *33 1/3*

diameter of tube holes in drum *1 3/4"* Pitch of tube holes *1 1/8", 2 7/8", 3 3/8"* Percentage strength of shell in way of tubes *33 1/3*

Drum has a flat side state method of staying *Yes* Depth and thickness of girders at centre *Yes*

Distance apart *Yes* Number and pitch of stays in each *Yes* Working pressure *Yes*

Steam Drum Heads:—Material *Steel* Thickness *1 1/8"* Radius *on hour stayed* *50"*

of Manhole *12" x 16"* Water Drums:—Number in each boiler *Three* Inside Diameter *25"*

Material of plates *Steel* Thickness *1 1/8", 1 3/16", 1 1/4"* Range of tensile strength *28 to 32 tons* Are drum shell plates welded *Yes*

flanged *No* Description of riveting:—Cir. seams *Double* long. seams *Solid* Diameter of Rivet Holes in *1 1/8"*

seams *Yes* Pitch of rivets *1 1/2"* Lap of plates or width of butt straps *1 1/4"* Thickness of straps *1 1/8"*

Percentage strength of long. joint:—Plate *33 1/3* Rivet *33 1/3* Diameter of tube holes in drum *1 1/4"* Pitch of tube holes *1 1/8", 2 7/8", 3 3/8"*

Percentage strength of drum shell in way of tubes *33 1/3* Water Drum Heads:—Material *Steel* Thickness *2 9/32"*

Size of manhole or handhole *12" x 16"* Headers or Sections:—Number *Yes*

Material of Stays *Yes* Tested by Hydraulic Pressure to *Yes* Material of Stays *Yes*

Area supported by each stay *Yes* Working Pressure by Rules *Yes* Tubes:—Diameter *1 1/4" & 1 3/4"*

Thickness *9 lbs, 11 lbs & 14 lbs* Number *1108* Steam Dome or Collector:—Description of Joint to Shell *Yes*

Percentage strength of Joint *Yes* Diameter *Yes* Thickness of shell plates *Yes* Material *Yes*

Description of longitudinal joint *Yes* Diameter of Rivet Holes *Yes* Pitch of Rivets *Yes* Working Pressure of shell *Yes*

Rules *Yes* Crown or End Plates:—Material *Yes* Thickness *Yes* How stayed *Yes*

ERHEATER. Type *Garrow* Date of Approval of Plan *29/5/30* Tested by Hydraulic Pressure to *688 lbs*

Date of Test *26/1/31 & 8/4/31* Is a safety valve fitted to each section of the superheater which can be shut off from the Boiler *Cannot be shut off*

meter of Safety Valve *Double 1 1/2 Highlift* Pressure to which each is adjusted *425 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 *254 - 1 1/8" - 9 lbs*

are Gear. Tubes *140* Gaskets or joints:—Manhole *16* Handhole *8* Handhole plates *8*

The foregoing is a correct description,
FOR VICKERS-ARMSTRONGS LIMITED, Manufacturer.

Dates During progress of *1930 - Sept 3, Nov 5, 1931 - Jan 2, 7, 19, 26, Feb 6, 9, 13, 16, 19* Is the approved plan of boiler forwarded herewith *Yes*

Survey work in shops *Mar 6, 11, 19, 26, 30, Apr 8, 9, 16, 22, 23, 28, May 14, 21* Total No. of visits *34*

While During erection on *May 1, 15, 18, 29, July 10, 15, 16, 22, Aug 25*

On board vessel *- - -*

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) *These boilers have been built under Special Survey in accordance with the Rules and the approved plans. They have been efficiently mounted and fitted on board and their safety valves adjusted under steam.*

Survey Fee ... £ *incl. report* When applied for, *19*

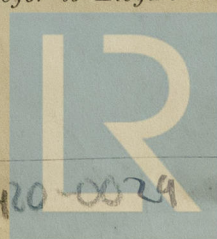
Travelling Expenses (if any) £ When received, *19*

W. Brown
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned

FRI. 18 SEP 1931

See Rev. J.E. 2414

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Foundation

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