

REPORT ON BOILERS.

Received at London Office 4 MAY 1945

Date of writing Report 15th March 1945 When handed in at Local Office 15th Mar. 1945 Port of Vancouver, B. C.

No. in Survey held at North Vancouver, B. C. Date, First Survey 2nd Nov., 1944 Last Survey 5th March, 1945

(Number of Visits 16) Tons { Gross 7148.28 Net 4212.00

on the Steel Single Screw Steamer "SELKIRK PARK"

North

Built at Vancouver, B.C. By whom built North Van Ship Repairs, Ltd. Yard No. 150 When built 1945

Engines made at Lachine, P. Q. By whom made Canadian Allis-Chalmers, Ltd. Engine No. 389 When made 1945

Boilers made at Vancouver, B.C. By whom made Vancouver Iron Works, Ltd. Boiler No. 778 When made 1945

Indicated Horse Power 505 Owners Minister of Munitions & Supply of Canada (Mgrs. Park Steamship Co. Ltd.) Port belonging to Montreal, P. Q.

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY

Manufacturers of Steel Steel Co. of Canada, Page-Hersey Tubes, Worth Steel Co., American Welding Co., Algoma Steel Co. (Letter for Record S)

Total Heating Surface of Boilers 7140 sq. ft. total Is forced draught fitted Yes Coal or Oil fired Either

No. and Description of Boilers Three - Single Ended Cylindrical Multitubular Working Pressure 220 lbs. per square inch

Tested by hydraulic pressure to 380 lbs. Date of test 13-11-44 No. of Certificate 781 - 782 Can each boiler be worked separately Yes

Area of Firegrate in each Boiler 51 sq. ft. No. and Description of safety valves to each boiler Two - 2-1/4" Morrison High Lift

Area of each set of valves per boiler { per Rule 6.35 sq. ins. 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 No Donkey Boiler

Smallest distance between boilers or uptakes and bunkers or woodwork 2 ft. Is oil fuel carried in the double bottom under boilers No

Smallest distance between shell of boiler and tank top plating 2 ft. Is the bottom of the boiler insulated Yes

Largest internal dia. of boilers 14'-6-3/16" Length 11'9" Ext. Shell plates: Material O.H. Steel Tensile strength 65000-77000 lbs.

Thickness 1-13/32" Are the shell plates welded or flanged No Description of riveting: circ. seams { end Double

Long. seams Treble Riv. Double Butt Strap. Diameter of rivet holes in { circ. seams 1-1/2" Pitch of rivets { 4-3/16" Approx.

Percentage of strength of circ. end seams { plate 64.2% Percentage of strength of circ. intermediate seam { plate - -

Percentage of strength of longitudinal joint { rivets 47.6% Working pressure of shell by Rules 221.2 lbs.

Percentage of strength of longitudinal joint { plate 85.1% Working pressure of shell by Rules 221.2 lbs.

Thickness of butt straps { outer 1-3/32" No. and Description of Furnaces in each Boiler 3 Morrison Corrugated Stephen Gourlay

Material O.H. Steel Tensile strength 55000 - 65000 lbs. Smallest outside diameter 41-9/16"

Length of plain part { top 10" Thickness of plates { crown 21/32" Description of longitudinal joint Forge Weld

Dimensions of stiffening rings on furnace or c.c. bottom - - Working pressure of furnace by Rules 230.9 lbs.

End plates in steam space: Material O.H. Steel Tensile strength 55000-65000 lbs. Thickness 1-15/32" Pitch of stays 21" x 21"

How are stays secured Double Nuts & 6-3/4" x 1/4" washer each end Working pressure by Rules 230.3 lbs.

Tube plates: Material { front O.H. Steel Tensile strength { 55000-65000 lbs. Thickness { 1"

Mean pitch of stay tubes in nests 9.8" Pitch across wide water spaces 8-1/4" x 14-1/2" Working Pressure { front 245 lbs.

Girders to combustion chamber tops: Material O.H. Steel Tensile strength 65000 - 75000 lbs. Depth and thickness of girder

Double at centre 11" x 7/8" Length as per Rule 34" Distance apart 11" No. and pitch of stays

In each 3 - 7-3/8" Working pressure by Rules 261.6 lbs. Combustion chamber plates: Material O.H. Steel

Tensile strength 58000 - 68000 lbs. Thickness: Sides 25/32" Back 23/32" Top 25/32" Bottom 25/32"

Pitch of stays to ditto: Sides 9"x10-3/16" Back 9"x8 1/2" Cent. C.C. Top 7-3/8" x 11" Are stays fitted with nuts or riveted over Nuts

Working pressure by Rules 224 lbs. Front plate at bottom: Material O.H. Steel Tensile strength 55000 - 65000 lbs.

Thickness 1" Lower back plate: Material O.H. Steel Tensile strength 55000-65000 lbs. Thickness 15/16"

Pitch of stays at wide water space 9" x 14-1/2" Are stays fitted with nuts or riveted over Nuts

Working pressure 232 lbs. Main stays: Material O.H. Steel Tensile strength 63000 - 73000 lbs.

Diameter { At body of stay 3-1/2" No. of threads per inch 6 Area supported by each stay 441 sq. ins.

Working pressure by Rules 245 lbs. Screw stays: Material O.H. Steel Tensile strength 58000 - 68000 lbs.

Diameter { At turned off part 1.606 No. of threads per inch 9 Area supported by each stay 81 sq. ins.

Thickness 1.75" Working pressure by Rules 245 lbs. Main stays: Material O.H. Steel Tensile strength 63000 - 73000 lbs.

Working pressure by Rules 224 lbs. Are the stays drilled at the outer ends No Margin stays: Diameter { At turned off part, 1.856" or Over threads 2" No. of threads per inch 9 Area supported by each stay 105.75 sq. in. Working pressure by Rules 232 lbs. Tubes: Material O.H. Steel External diameter { Plain 3" Thickness { .16" No. of threads per inch 9 Stay 3" 3/8" Pitch of tubes 4-1/8" x 4-1/4" Working pressure by Rules 250 lbs. Manhole compensation: Size of opening End plate 16" x 12" Section of compensating ring - - No. of rivets and diameter of rivet holes - - Upper Lower Outer row rivet pitch at ends - - Depth of flange if manhole flanged 4-1/4" 3-1/2" Steam Dome: Material - - Tensile strength - - Thickness of shell - - Description of longitudinal joint - - Diameter of rivet holes - - Pitch of rivets - - Percentage of strength of joint { Plate - - Rivets - - Internal diameter - - Working pressure by Rules - - Thickness of crown - - No. and diameter stays - - Inner radius of crown - - Working pressure by Rules - - How connected to shell - - Size of doubling plate under dome - - Diameter of rivet holes and of rivets in outer row in dome connection to shell - - Type of Superheater "ELESCO" Smoke Box Type Manufacturers of { Tubes (National Tube Co. Steel forgings (Ellwood City, Steel castings (Pa. Number of elements 58 Material of tubes S.D. Steel Internal diameter and thickness of tubes .69" .095" (B.B.W. Min. Material of headers O.H. Steel Tensile strength 33.5 Tons Thickness 1-1/8" Min. Can the superheater be shut off the boiler be worked separately No Is a safety valve fitted to every part of the superheater which can be shut off from the boiler Yes Area of each safety valve 1.767 sq. ins. Are the safety valves fitted with easing gear No Working pressure as Rules 520 lbs. per sq. in. Pressure to which the safety valves are adjusted 220 lbs. per sq. in. Hydraulic test pressure tubes 2500 lbs. per sq. in. forgings and castings 550 lbs. per sq. in. and after assembly in place Steam Test Are drain cocks valves fitted to free the superheater from water where necessary Yes Have all the requirements of Sections 14 to 22 inclusive for boilers been complied with Yes

The foregoing is a correct description,
VANCOUVER IRON WORKS LTD.
Manufactured by

Dates of Survey { During progress of work in shops - 1944 Nov. 2, 3, 4, 6, 8, 10, 13, 14, 16 Approved plans forwarded with Vcr. Rpt. No. 6426 while building { During erection on board vessel - 1945 Feb. 22, 27 Mar. 1, 2, 3, 4, 5 Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.) Total No. of visits 16

Is this Boiler a duplicate of a previous case Yes If so, state Vessel's name and Report No. S.S. "WINONA PARK" Vcr. Rpt. No.

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) These boilers have been constructed under Special Survey of tested materials in accordance with the approved plans, New York letters and otherwise in conformity with the Society's Rules. On completion, the boilers were satisfactorily tested under hydraulic pressure to 380 lbs. per sq. inch. They were fitted on board under Special Survey, examined under working conditions, safety valves adjusted under steam to the working pressure and satisfactory accumulation test carried out.

Cross seams of both end plates are fusion welded by Union Melt Process; stress relieved under Survey. Welds ground flush both sides of plate. Combustion chambers wrapper plates welded to back tube plate and combustion chamber back plate; butts of combustion chamber wrapper plates are welded, all Union Melt Automatic welding tested as per Rule and ground flush. Furnaces hand electric butt welded to back tube plate and lap welded to lower front end plate; butt welds ground flush.

Survey Fee \$150.00 } When applied for 8 March, 1945
Travelling Expenses (if any) \$ 15.00 } When received 19

J. Caldwell, R. Brown
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 25 MAY 1945
Assigned Su F.E. machy rpt.