

Rpt. 4.

## REPORT ON MACHINERY.

No.

REC'D NEW YORK Dec. 17-1918. Received at London Office TUE 21 DEC 1918

Date of writing Report 10 When handed in at Local Office 19 Port of Port Arthur, Ontario

No. in Survey held at Port Arthur, Ont. Date, First Survey Last Survey 1918

Reg. Book. on the Steel Single Screw Steamer "War Karma" (Number of Volls)

Master Built at Port Arthur, Ont. By whom built Port Arthur Shipbldg Co. Tons { Gross 2264.08 Net 1841.73 When built 1918

Engines made at Port Arthur, Ont. By whom made Port Arthur Shipbldg Co. when made 1918

Boilers made at Port Arthur, Ont. By whom made Port Arthur Shipbldg Co. when made 1918

Registered Horse Power 1520 Owners Imperial Munitions Board Port belonging to Port Arthur, Ont.

Nom. Horse Power as per Section 28 261-32 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines Single triple expansion No. of Cylinders 3 No. of Cranks 3

Dia. of Cylinders 20 1/2 x 34 x 56 Length of Stroke 40 Revs. per minute 80 Dia. of Screw shaft as per rule 11.95 as fitted 12.25 Material of screw shaft Forged Steel

Is the screw shaft fitted with a continuous liner the whole length of the stern tube Yes Is the after end of the liner made water tight

In the propeller boss Yes If the liner is in more than one length are the joints burned Yes If the liner does not fit tightly at the part

between the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive If two

liners are fitted, is the shaft lapped or protected between the liners Yes Length of stern bush 4' 6"

Dia. of Tunnel shaft as per rule 10.69 as fitted 10.875 Dia. of Crank shaft journals as per rule 11.72 as fitted 11.5 Dia. of Crank pin 11.5 Size of Crank webs 7 1/2 x 20 x 22 Dia. of thrust shaft under

collars 12 Dia. of screw 14 1/2 Pitch of Screw 14 1/2 No. of Blades 4 State whether moveable No Total surface 70.8 sq ft

No. of Feed pumps 3 Diameter of ditto 10 Stroke 24 Can one be overhauled while the other is at work Yes

No. of Bilge pumps 3 Diameter of ditto 20 Stroke 20 Can one be overhauled while the other is at work Yes

No. of Donkey Engines One Sizes of Pumps 3 7/8 x 8 1/2 x 10 4 9/16 x 10 No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room 3 7 x 7 x 10 2-3 In Holds, &c. Five 3"

No. of Bilge Injections 1 sizes 6" Connected to condenser, or to circulating pump Yes Is a separate Donkey Suction fitted in Engine room & size Yes

Are all the bilge suction pipes fitted with roses Yes Are the roses in Engine room always accessible Yes Are the sluices on Engine room bulkheads always accessible Yes

Are all connections with the sea direct on the skin of the ship Yes Are they Valves or Cocks Valves & cocks

Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates No Are the Discharge Pipes above or below the deep water line Above

Are they each fitted with a Discharge Valve always accessible on the plating of the vessel Yes Are the Blow Off Cocks fitted with a spigot and brass covering plate Yes

What pipes are carried through the bunkers Aux steam pipe How are they protected Sheet iron guard

Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times Yes

Are the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges Yes

Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from Upper engine platform

BOILERS, &c.—(Letter for record S) Manufacturers of Steel Lukens U. S. A.

Total Heating Surface of Boilers 4670 Is Forced Draft fitted No No. and Description of Boilers 2 Scotch single ended

Working Pressure 190 Tested by hydraulic pressure to 285 lbs. Date of test SEPT. 28 No. of Certificate 15

Can each boiler be worked separately Yes Area of fire grate in each boiler 67.5 No. and Description of Safety Valves to

each boiler One twin 3" spring loaded Area of each valve 7.07 Pressure to which they are adjusted 190 lbs. Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork 15" Mean dia. of boilers 15' 0" Length 11' 0" Material of shell plates Steel

Thickness 1.5 Range of tensile strength 28 to 32 Tons Are the shell plates welded or flanged No Descrip. of riveting: cir. seams L. S. R.

long. seams DBS treble riveted Diameter of rivet holes in long. seams 1 1/2 Pitch of rivets 10" + 5" Lap of plates or width of butt straps 21 x 1.156

Per centages of strength of longitudinal joint rivets 87.526 Working pressure of shell by rules 217.93 Size of manhole in shell 12 x 16

Size of compensating ring 2' 9" x 2' 9" x 1.5 No. and Description of Furnaces in each boiler 3 Morrison each Boiler Material Steel Outside diameter 49.8 1/2

Length of plain part top 8.8 1/2 bottom 8.8 1/2 Thickness of plates crown .651 bottom .651 Description of longitudinal joint Welded No. of strengthening rings

Working pressure of furnace by the rules 218.9 Combustion chamber plates: Material Steel Thickness: Sides .625 Back .775 Top .562 Bottom .625

Pitch of stays to ditto: Sides 6.875 Back 6.875 Top 7 x 7.5 If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 192

Material of stays Steel Area at smallest part 1.26 Area supported by each stay 52.5 sq in Working pressure by rules 208 End plates in steam space:

Material Steel Thickness 1.217 Pitch of stays 15 x 16.5 How are stays secured Single nuts Working pressure by rules 206.4 Material of stays Steel

Area at smallest part 4.909 Area supported by each stay 247.5 Working pressure by rules 206 Material of Front plates at bottom Steel

Thickness 8.125 Material of Lower back plate Steel Thickness 6.875 Greatest pitch of stays 6.875 x 13.5 Working pressure of plate by rules 194.4

Diameter of tubes 3.25 Pitch of tubes 2.25 x 9.25 Material of tube plates Steel Thickness: Front .775 Back .78 1/2 Mean pitch of stays 11"

Pitch across wide water spaces 13.75 Working pressures by rules 194.4 Girders to Chamber tops: Material Steel Depth and

thickness of girder at centre 8.625 x 1.5 Length as per rule 30" Distance apart 7.5 Number and pitch of stays in each 3 x 7

Working pressure by rules 220 Steam dome: description of joint to shell % of strength of joint

Diameter Thickness of shell plates Material Description of longitudinal joint Diam. of rivet holes

Pitch of rivets Working pressure of shell by rules Crown plates Thickness How stayed

SUPERHEATER. Type Date of Approval of Plan Tested by Hydraulic Pressure to

Date of Test Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler

iameter of Safety Valve Pressure to which each is adjusted Is Easing Gear fitted

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