

REPORT ON MACHINERY.

No. 828

RECEIVED NEW YORK May 7 1919

Received at London Office

Date of writing Report April 18 1919 When handed in at Local Office April 22 1919

Port of Seattle Wash. U.S.A.

Survey held at Seattle

Date, First Survey October 25 1918 Last Survey April 14 1919

on the New Steel Screw Steamer "WESTERN KNIGHT" (Builder's Yard No. 12)

(Number of Visits 33)

Tons { Gross 5834.4
Net 3636.9

Master W.C.W. Remy Built at Seattle

By whom built Ames Shipbuilding & Drydock Co. When built 1919

Engines made at Seattle

By whom made Ames Shipbuilding & Drydock Co. when made 1919

Boilers made at Seattle

By whom made Ames Shipbuilding & Drydock Co. when made 1919

Registered Horse Power 3500

Owners U.S. Shipping Board & Emergency Fleet Corp. belonging to Seattle

Nom. Horse Power as per Section 28 639

Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

MACHINES, &c.—Description of Engines Triple Expansion

No. of Cylinders 3 No. of Cranks 3

Dia. of Cylinders 28 1/2 - 48 - 80 Length of Stroke 48 Revs. per minute 85 Dia. of Screw shaft as per rule 15 1/2 as fitted 15 1/2 Material of screw shaft (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

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 — Length of stern bush 5'-2"

Dia. of Tunnel shaft as per rule 14 1/2 as fitted 14 1/2 Dia. of Crank shaft journals as per rule 15 1/2 as fitted 15 1/2 Dia. of Crank pin 15 1/2 Size of Crank webs 22 x 27 1/2 Dia. of thrust shaft under

rollers 15 1/2 Dia. of screw 16 1/2 Pitch of Screw 16'-3" No. of Blades 4 State whether moveable Yes Total surface 86.8 sq

No. of Feed pumps 2 Diameter of ditto 12 x 8 Stroke 18 Can one be overhauled while the other is at work Yes

No. of Bilge pumps 2 Diameter of ditto 6 Stroke 24 Can one be overhauled while the other is at work Yes

No. of Donkey Engines 3 Duplex Sizes of Pumps 1 General Service 7 1/2 x 5 x 6 1 Ballast 12 x 8 x 12 No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room 4-3 1/2 and 1-4 In Holds, &c. No. 1 Hold 2-3 1/2 No. 2 Hold 2-3 1/2 No. 3 Hold 2-3 1/2

No. 4 Hold 2-3 1/2 No. 5 Hold 2-3 1/2 Tunnel off 1-2 1/2

No. of Bilge Injections 1 sizes 14" Connected to condenser to circulating pump Yes Is a separate Donkey Suction fitted in Engine room & size Yes 4"

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 None

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

Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates Yes Are the Discharge Pipes above or below the deep water line Below

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 Hand pump suction and discharge How are they protected Wood casings

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 Engine room platform.

BOILERS, &c.—(Letter for record Dec 2 1907) Manufacturers of Steel Carnegie Steel Co. 353

Total Heating Surface of Boilers 9273 Is Forced Draft fitted Yes No. and Description of Boilers 3 Single and Section Marine

Working Pressure 200 Tested by hydraulic pressure to 300 Date of test Dec. 19-1918 No. of Certificate —

Can each boiler be worked separately Yes Area of fire grate in each boiler 78.7 sq No. and Description of Safety Valves to

each boiler Duplex Spring loaded Area of each valve 9.62 Pressure to which they are adjusted 200 Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers 20" Mean dia. of boilers 15'-9" Length 12'-5 3/8 Material of shell plates Steel

Thickness 1 3/4 Range of tensile strength 60,000 to 71,680 Are the shell plates welded or flanged No Descrip. of riveting: cir. seams Ends Double Lap

Long. seams Triple Butt Diameter of rivet holes in long. seams 1 7/16 Pitch of rivets 8 7/8 Lap of plates on width of butt straps 20"

Percentages of strength of longitudinal joint rivets 86 plate 83.8 Working pressure of shell by rules 214 Size of manhole in shell 12" x 16"

Size of compensating ring 13 1/2 x 30 x 32 No. and Description of Furnaces in each boiler 4 Morrison Material Steel Outside diameter 45 5/8

Length of plain part top — Thickness of plates crown 37/64 bottom 7/64 Description of longitudinal joint Welded No. of strengthening rings —

Working pressure of furnace by the rules 202 Combustion chamber plates: Material Steel Thickness: Sides 1/16 Back 1/16 Top 1/16 Bottom 5/32

Pitch of stays to ditto: Sides 7 x 8 1/4 Back 7 x 8 7/16 Top 7 x 8 3/4 If stays are fitted with nuts or riveted heads Other riveted Working pressure by rules 217 End plates in steam space:

Material of stays Steel Area at smallest part 1-7/4 x 2-0 Area supported by each stay 61.25 Working pressure by rules 217 Material of stays Steel

Material Steel Thickness 1 3/16 Pitch of stays 17 1/2 x 17 1/2 How are stays secured Double Nuts Working pressure by rules 217 Material of Front plates at bottom Steel

Area at smallest part 7-069 Area supported by each stay 306.25 Working pressure by rules 217 Material of Front plates at bottom Steel

Thickness 57/64 Material of Lower back plate Steel Thickness 1/16 + 1/16 Double Greatest pitch of stays 7 x 8 7/16 Working pressure of plate by rules 217

Diameter of tubes 2 1/2 Pitch of tubes 3 7/8 Material of tube plates Steel Thickness: Front 1/16 Back 3/4 Mean pitch of stays 7-25 x 10-87

Pitch across wide water spaces 13" Working pressures by rules 212 Girders to Chamber tops: Material Steel Depth and

Thickness of girder at centre 11 1/4 x 1 1/2 Length as per rule 33 1/2 Distance apart 8 3/4 Number and pitch of stays in each 4 - 7' pitch

Working pressure by rules 264 Steam dome: description of joint to shell None % 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 None 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

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

IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:—

2 Connecting rod top end bolts	1 Link block
2 " " " " " "	2 Thrust shoes
2 Main bearing bolts	2 Propeller blades
1 Set shaft coupling bolts	40 Condenser tubes and ferrules
1 " Feed pump valves	50 Boiler tubes
1 " Air pump valves	1 Set Furnace joints, baffle plates & fire bars
1 " HP piston rings	A number of valves and spare parts for pump and auxiliaries
1 " Crosshead trasses	A quantity of assorted bolts, nuts and iron of various sizes
1 " Crank pin trasses	
1 " Eccentric straps for H.P.	
1 " " " " " I.P.	

The foregoing is a correct description,

Arce Shipbuilding & Dry Dock Co.
125 Hodge Avenue

Manufacturer.

Dates of Survey while building	During progress of work in shops --	1918 Oct 25 - Nov 9 - 11 - 13 - 19 - 30 - Dec 7 - 10 - 11 - 13 - 14 - 19 - 23 - 27 - Jan 9 - 13 - 18 - 25 - 28	1919 Jan 9 - 13 - 18 - 25 - 28	(19)
	During erection on board vessel --	1918 Nov 30 - Dec 7 - 10 - 11 - 14 -	1919 March 14 - 26 - 28 - April 1 - 4 - 7 - 9 - 12 - 14	(14)
	Total No. of visits	33		

Is the approved plan of main boiler forwarded herewith *copy only*

Dates of Examination of principal parts—Cylinders Dec 13-19 Slides Jan 9-18 Covers Dec 13-19 Pistons Jan 9-13 Rods Dec 23-27
Connecting rods Dec 10-23 Crank shaft Nov 30 Jan 18 Thrust shaft Dec 13 Jan 18 Tunnel shafts Dec 13 Jan 28 Screw shaft Dec 7-13 Propeller Nov 13-14
Stern tube Dec 7-13 Steam pipes tested March 26 Engine and boiler seatings Dec 11-13 Engines holding down bolts March 26-28
Completion of pumping arrangements March 14-26 Boilers fixed Jan 13 Engines tried under steam April 12
Completion of fitting sea connections Dec 13 Stern tube Dec 13 Screw shaft and propeller Dec 13-14
Main boiler safety valves adjusted April 7 Thickness of adjusting washers $P \frac{1}{2} - \frac{17}{32}$ C $\frac{27}{32} - \frac{13}{16}$ S $\frac{7}{16} - \frac{17}{32}$
Material of Crank shaft Steel Identification Mark on Do. $N^{\circ} 1-197$ Material of Thrust shaft Steel Identification Mark on Do. $2-12-18 LN$
Material of Tunnel shafts Steel Identification Marks on Do. $253-5-12-18$ Material of Screw shafts Steel Identification Marks on Do. $253-5-12-18$
Material of Steam Pipes Steel Test pressure 600

Is an installation fitted for burning oil fuel No Is the flash point of the oil to be used over 150°F.

Have the requirements of Section 49 of the Rules been complied with

Is this machinery duplicate of a previous case *Yes* If so, state name of vessel "WESTERN ALLY"

General Remarks (State quality of workmanship, opinions as to class, &c.)

The Engines and Boilers have been constructed and installed under special survey and in accordance with the approved plans together with shafting, fitting, auxiliaries, pipes, mountings and sea connections. The material and workmanship are both of good quality. On completion the machinery was tried under steam and found satisfactory.

The machinery eligible, in my opinion to have the record of **LMC 4.19** made in the Register Book in the case of this vessel.

Boilers Stamped No. 220-221-222
LLOYD'S TEST
300 lbs
19-12-18 JF

It is submitted that
this vessel is eligible for
THE RECORD. + L.M.C. 4.19 F.D.

The amount of Entry Fee ...	\$ 15 : 00 :	When applied for,
Special ...	\$ 259 : 75 :	April 22 1919
Donkey Boiler Fee ...	£ :	When received,
Travelling Expenses (if any) \$ 50 : 00 :		19/6/19

Committee's Minute

New York MAY 13 1919

Assigned

+ L.M.C. 4.19



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