

REPORT ON MACHINERY.

No. 637

TUE. 20 AUG. 1918

Received at London Office
 Date of writing Report July 10 1918 ^{REG'D NEW YORK July 24-1918.} ^{When handed in at Local Office} July 16 1918 Port of Seattle Wash U.S.A.
 No. in Survey held at Seattle Date, First Survey November 12, 1917 Last Survey June 26 1918
 Reg. Book. First Entry On the New Steel Screw Steamer VITTORIO EMMANUELLE III Yard N. 95 Tons Gross 4856.6
 Master W. A. Carleton Built at Seattle By whom built Seattle Construction & Dry Dock Co. When built 1918
 Engines made at Seattle By whom made Seattle Construction & Dry Dock Co. when made 1918
 Boilers made at Seattle By whom made Seattle Construction & Dry Dock Co. when made 1918
 Registered Horse Power 2500 Owners U.S. Shipping Board & Emergency Fleet Corp. Port belonging to Seattle
 Nom. Horse Power as per Section 28 472 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted yes

ENGINES, &c.—Description of Engines Triple Expansion No. of Cylinders 3 No. of Cranks 3
 Dia. of Cylinders 24"-40"-70" Length of Stroke 48 Revs. per minute 70 Dia. of Screw shaft as per rule 14.10 Material of 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 — Length of stern bush 4'-9"
 Dia. of Tunnel shaft as per rule 12.67 Dia. of Crank shaft journals as per rule 13.3 Dia. of Crank pin 13.375 Size of Crank webs HP 5 IP 92 LP 10 7/8 Dia. of thrust shaft under
 collars 13.375 Dia. of screw 17'-0" Pitch of Screw 18'-0" No. of Blades 4 State whether moveable No Total surface 986
 No. of Feed pumps 2 Diameter of ditto 7 Stroke 18 Can one be overhauled while the other is at work yes
 No. of Bilge pumps 2 Diameter of ditto 5 Stroke 20 Can one be overhauled while the other is at work yes
 No. of Donkey Engines 2 Duplex Sizes of Pumps Ballast 10"x12"x12" No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room 2-3 1/2" 1-6" In Holds, &c. No. 1 Hold 2-3 1/2" No. 2 Hold 2-3 1/2"
No. 3 Hold 2-3 1/2" Shaft Tunnel 1-3"
 No. of Bilge Injections 1 sizes 10" Connected to condenser circulating pump yes Is a separate Donkey Suction fitted in Engine room & size yes 6"
 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 None How are they protected —
 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 at main deck

BOILERS, &c.—(Letter for record Nov 24/18 Dec 11/18 Jan 19/19) Manufacturers of Steel North Bros.
 Total Heating Surface of Boilers 6831 Is Forced Draft fitted yes No. and Description of Boilers 3 Single ended Scotch Marine
 Working Pressure 190 Tested by hydraulic pressure to 285 Date of test Feb 19 No. of Certificate —
 Can each boiler be worked separately yes Area of fire grate in each boiler 56.376 No. and Description of Safety Valves to
 each boiler Two Spring loaded Area of each valve 9.62 Pressure to which they are adjusted 190 Are they fitted with easing gear yes
 Smallest distance between boilers or uptakes and bunkers 12" Mean dia. of boilers 13'-10 1/2" Length 11'-11 1/2" Material of shell plates Steel
 Thickness 1 1/2" Range of tensile strength 60,000 Are the shell plates welded or flanged No Descrip. of riveting: cir. seams Double lap
 long. seams Triple butt Diameter of rivet holes in long. seams 1 1/2" Pitch of rivets 8 1/2" lap of plates width of butt straps 11 1/2" x 18 1/4"
 Per centages of strength of longitudinal joint rivets 82.46 Working pressure of shell by rules 198 Size of manhole in shell 12" x 16"
plate 84.55
 Size of compensating ring 30 x 32 No. and Description of Furnaces in each boiler 3 Morrison Material Steel Outside diameter 45 1/8"
 Length of plain part top Thickness of plates crown 7/16 Description of longitudinal joint Welded No. of strengthening rings —
bottom Working pressure of furnace by the rules 194 Combustion chamber plates: Material Steel Thickness: Sides 5/8" Back 5/8" Top 7/8" Bottom 7/8"
 Pitch of stays to ditto: Sides 6 x 6 Back 6 x 7 1/2 Top 7 1/2 x 7 1/2 If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 224 TOP
244 Sides 245 Back
 Material of stays Steel Area at smallest part 1.26 Area supported by each stay 37.4 Working pressure by rules 250 End plates in steam space:
 Material Steel Thickness 1 1/2" Pitch of stays 17 1/2" x 17 1/2" How are stays secured Double Nuts Working pressure by rules 199 Material of stays Steel
 Area at smallest part 6.49 Area supported by each stay 300 Working pressure by rules 225 Material of Front plates at bottom Steel
 Thickness 3/4" Material of Lower back plate Steel Thickness 5/8" Greatest pitch of stays 12 1/2" Working pressure of plate by rules 376
 Diameter of tubes 2 1/2" Pitch of tubes 3 5/8" Material of tube plates Steel Thickness: Front 3/4" Back 3/4" Mean pitch of stays 9
 Pitch across wide water spaces 14 1/2" Working pressures by rules 234 Girders to Chamber tops: Material Steel Depth and
 thickness of girder at centre 10 3/4" x 1 1/2" Length as per rule 34 Distance apart 7 1/2" Number and pitch of stays in each 3-7 1/2"
 Working pressure by rules 235 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 —

Lloyd's Register
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IS A DONKEY BOILER FITTED? *No*

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:—

- | | | |
|--|---------------------------------|-------------------------|
| 2 Connecting rod top end bolts & nuts | 1 Set piston springs | A quantity of assorted |
| 2 Connecting rod bottom end bolts & nuts | 1 Propeller (cast iron) | bolts, nuts and washers |
| 2 Main bearing bolts | 20 Condenser tubes and ferrules | of various sizes |
| 1 Set coupling bolts for one coupling | 6 Plain boiler tubes | |
| 1 Set Feed pump valves | 2 Safety valve springs | |
| 1 Set Bilge pump valves | 100 Fire bars | |

The foregoing is a correct description,

Seattle Construction & Dry Dock Company
Crowley Manufacturer.

Dates of Survey while building
During progress of work in shops -- 1917 Nov 12-22-28 Dec 1-4-10-24-29 Jan 3-10-23-24 Feb 6-15-19-23 March 4-8-18-20-27-30 April 5-10-16-19-26
During erection on board vessel --- May 10-13-16-18-22-24 (33)
Total No. of visits 48
Is the approved plan of main boiler forwarded herewith *Copy*

Dates of Examination of principal parts—Cylinders Nov 22 Dec 4-10 Slides Jan 3-10 Covers Nov 22 Dec 4-10 Pistons Dec 4-24 Rods Dec 10
Connecting rods Dec 24 Jan 8 Crank shaft Feb 6-20 Thrust shaft Feb 20 Tunnel shafts April 5-10 May 10 Screw shaft May 10-18 Propeller May 10-22
Stern tube May 10 Steam pipes tested June 19 Engine and boiler seatings June 17 Engines holding down bolts June 17
Completion of pumping arrangements June 17 Boilers fixed June 4 Engines tried under steam June 26
Completion of fitting sea connections May 22 Stern tube May 22 Screw shaft and propeller May 24
Main boiler safety valves adjusted June 26 Thickness of adjusting washers P $\frac{1}{16}$ - $\frac{1}{32}$ C $\frac{1}{16}$ - $\frac{1}{32}$ S $\frac{1}{16}$ - $\frac{1}{32}$
Material of Crank shaft *Steel* Identification Mark on Do. 32-11-17 JH Material of Thrust shaft *Steel* Identification Mark on Do. 15-1-18 TM
Material of Tunnel shafts *Steel* Identification Marks on Do. 1357-15-1-18 JH Material of Screw shafts *Steel* Identification Marks on Do. 10-12-17 JH
Material of Steam Pipes *Steel* Test pressure 570

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 *S.S. "SUTHERLAND" S.S. "BREHENTION"*

General Remarks (State quality of workmanship, opinions as to class, &c. *The Engines and Boilers have been built and installed under special survey and in accordance with the approved plans, together with auxiliaries, pipes, mountings, fittings and sea connections. The material and workmanship are both of good quality. On completion the machinery tried under steam and found satisfactory. The Machinery eligible, in my opinion, to have the record of +LMC 6.18 made in the Register Book in the case of this vessel.*

It is submitted that
this vessel is eligible for
THE RECORD. +LMC 6.18 F.D.

The amount of Entry Fee ... \$ 73 : 05 :
Special ... \$ 218 : 00 :
Donkey Boiler Fee ... £ : :
Travelling Expenses (if any) \$ 65 : 00 :
When applied for, July 13 1918
When received, Aug 9 1918

Committee's Minute

New York JUL 30 1918

Assigned

+LMC 6.18

James Fowler
Engineer Surveyor to Lloyd's Register of Shipping.

MACHINERY CERTIFICATE
WRITTEN 20-8-18



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