

REPORT ON MACHINERY.

No. 13485

Received at London Office

Date of writing Report 2nd July 1913 When handed in at Local Office 19 Port of Hamburg
No. in Survey held at Fleensburg Date, First Survey 28th Decr. 12 Last Survey 30th June 1913
Reg. Book. on the Steel S.S. "Sumatra" (Number of Visits 13) 7485
Master C. Wellhöfer Built at Fleensburg By whom built Fleensburger Schiffbau Ges. Tons 4677
Engines made at Fleensburg By whom made Fleensburger Schiffbau Ges. when made 1913
Boilers made at Fleensburg By whom made Fleensburger Schiffbau Ges. when made 1913
Registered Horse Power 836 Owners Deutsch-Austral. Dampfschiff-Ges. Port belonging to Hamburg
Nom. Horse Power as per Section 28 836 Is Refrigerating Machinery fitted for cargo purposes yes Is Electric Light fitted yes

ENGINES, &c.—Description of Engines Quadruple Expansion No. of Cylinders 4 No. of Cranks 4
Dia. of Cylinders 26 3/4, 38 3/4, 56 3/4, 82 3/4 Length of Stroke 59 Revs. per minute 78 Dia. of Screw shaft 16 3/4 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 — 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' 9 1/2"
Dia. of Tunnel shaft 15 3/8 as per rule 15 3/8 Dia. of Crank shaft journals 16 1/2 as per rule 16 1/2 Dia. of Crank pin 16 1/2 Size of Crank webs 16 1/2 x 18 1/2 Dia. of thrust shaft under
collars 16 1/2 Dia. of screw 20 3/8 Pitch of Screw 16 9/16 No. of Blades 4 State whether moveable yes Total surface 97 29/32
No. of Feed pumps 2 Diameter of ditto 4 1/8 Stroke 3 1/2 Can one be overhauled while the other is at work yes
No. of Bilge pumps 2 Diameter of ditto 4 3/8 Stroke 2 1/2 Can one be overhauled while the other is at work yes
No. of Donkey Engines 5 Sizes of Pumps See Specifications No. and size of Suctions connected to both Bilge and Donkey pumps
In Engine Room 5 off 4" from well 4" from Recast 1" from In Holds, &c. 12 off 4"
from Tanks 16 off 4" from Fore and Aft Peaks 2 off 3 1/2"
No. of Bilge Injections 1 sizes 1 5/8 Connected to condenser or 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 no
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 yes Are the Discharge Pipes above or below the deep water line above water
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 Fore hold suction How are they protected by wood boxes
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
Dates of examination of completion of fitting of Sea Connections 8/5 of Stern Tube 27/5 Screw shaft and Propeller 27/5
Is the Screw Shaft Tunnel watertight yes Is it fitted with a watertight door yes worked from Cylinder platform

BOILERS, &c.—(Letter for record B) Manufacturers of Steel Fried. Krupp, Kt. in Ger. Essen/Ruhr.
Furnaces: Rheinische Stahlwerke, Duisburg.
Total Heating Surface of Boilers 12456 sq. ft. Is Forced Draft fitted yes No. and Description of Boilers 4 Single ended multi-tubular
Working Pressure 213 lbs. Tested by hydraulic pressure to 426 lbs. Date of test 8/4 & 8/5 1913 No. of Certificate 204 U.S. 206 & 207
Can each boiler be worked separately yes Area of fire grate in each boiler 66.8 sq. ft. No. and Description of Safety Valves to
each boiler 2 Spring loaded Area of each valve 12.66 sq. in. Pressure to which they are adjusted 213 lbs. Are they fitted with easing gear yes
Smallest distance between boilers or uptakes and bunkers or woodwork 20" Mean dia. of boilers 15 10 1/16 Length 12' 8" Material of shell plates Steel
Thickness 1.4" Range of tensile strength 28-32 Tons Are the shell plates welded or flanged — Descrip. of riveting: cir. seams lap, dbl. riv.
long. seams dbl. butt, 2nd riv. Diameter of rivet holes in long. seams 1.65" Pitch of rivets 20.5" Lap of plates or width of butt straps 3.18 x 1.2"
Per centages of strength of longitudinal joint 122% Working pressure of shell by rules 238 lbs. Size of manhole in shell 12.6 x 16.56"
Size of compensating ring 8.68 x 1.4" No. and Description of Furnaces in each boiler 3 horizontal Material Steel Outside diameter 29 1/4"
Length of plain part top 4" Thickness of plates bottom 1.67" Description of longitudinal joint welded No. of strengthening rings none
Working pressure of furnace by the rules 230 lbs. Combustion chamber plates: Material Steel Thickness: Sides .67" Back .67" Top .67" Bottom .984"
Pitch of stays to ditto: Sides 7.87" Back 7.87" Top 7.87" If stays are fitted with nuts or riveted heads with heads Working pressure by rules 262 lbs.
Material of stays Steel Diameter at smallest part 1.5" Area supported by each stay 62 sq. in. Working pressure by rules 255 lbs. End plates in steam space:
Material Steel Thickness 1.08" Pitch of stays 15" How are stays secured dbl. nut & wash Working pressure by rules 237 lbs. Material of stays Steel
Diameter at smallest part 3" Area supported by each stay 226 sq. in. Working pressure by rules 326 lbs. Material of Front plates at bottom Steel
Thickness 1.02" Material of Lower back plate Steel Thickness 7/8" Greatest pitch of stays 12" Working pressure of plate by rules 190 lbs.
Diameter of tubes 3 1/2" Pitch of tubes 3.66 x 3.74" Material of tube plates Steel Thickness: Front 1.02" Back .95" Mean pitch of stays 7.3"
Pitch across wide water spaces 13 1/8" Working pressures by rules 242 lbs. Girders to Chamber tops: Material Steel Depth and
thickness of girder at centre 11 x 13 1/2" Length as per rule 35.5" Distance apart 7.5" Number and pitch of stays in each 3 x 7.87"
Working pressure by rules 222 lbs. Superheater or Steam chest; how connected to boiler — Can the superheater be shut off and the boiler worked
separately — Diameter — Length — Thickness of shell plates — Material — Description of longitudinal joint — Diam. of rivet
holes — Pitch of rivets — Working pressure of shell by rules — Diameter of flue — Material of flue plates — Thickness —
If stiffened with rings — Distance between rings — Working pressure by rules — End plates: Thickness — How stayed —
Working pressure of end plates — Area of safety valves to superheater — Are they fitted with easing gear —

No Donkey Jockey fitted

SPARE GEAR. State the articles supplied:— shaft, 1 pair crankpin brases, 2 pair cross head brases, 2 bolts
with nuts for main bearings, 2 bolts and nuts for connecting rod bottom - and 4 bolts with nuts
for top end, 3 pump links one for each side, 1 slide rod, 1 air pump rod, 1 set of coup-
ling bolts, 1 set valves for air pump, 1 set valves and seats for feed and bilge pumps each,
1 set of valves for each auxiliary steam pump, for centrifugal pump; 1 piston rod with
piston complete, 1 slide rod, 1 metal shaft for wheel, 1 pair braces with bolts for connecting
rod top and bottom ends, 1 nut of packing ring, for each piston and 29 piston valve 25 condensate
valves, 50 screw glands, 30 flanges for main boiler, 1 spring for main
boiler safety valves, 1 ring for escape valve of feed pump, 1/2 inch
five bars for each boiler, a large number of bolts, studs, rivets,
nuts, ber and plate iron assorted.

The foregoing is a correct description,
Hensburger Schiffsbau-Gesellschaft
Manufacturers.

Dates of Examination of principal parts—Cylinders		26/3	Slides	19/4	Covers	17/4	Pistons	23/4	Rods	23/4
Connecting rods		26/3	Crank shaft	14/3	Thrust shaft	14/3	Tunnel shafts	11/3	Screw shaft	8/5
Propeller		27/5	Stern tube		8/5	Steam pipes tested		6/6	Engine and boiler seatings	
									27/5	
									Engines holding down bolts	
									27/5	
Completion of pumping arrangements		27/6	Boilers fixed		19/6	Engines tried under steam		27/6		
Main boiler safety valves adjusted		19/6	Thickness of adjusting washers		26/6	Fore and Aft		27/6	27/6	
									27/6	
Material of Crank shaft		Steel	Identification Mark on Do.		8376, 8859	Material of Thrust shaft		Steel	Identification Mark on Do.	
									8376, 8859	
Material of Tunnel shafts		Steel	Identification Marks on Do.		8376, 8859	Material of Screw shafts		Steel	Identification Marks on Do.	
									8376, 8859	
Material of Steam Pipes		Steel	Test pressure		500 lb.					

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

Specification of Donkey Pumps.

1) Simplex double acting 7" diam. by 6 1/4" Stroke for Feed purposes.
 2) Duplex " " 8" " " 6 " " " " " + bilges
 3) Simplex " " 14 " " 12 " " Ballast " "
 4) Duplex " " 7 1/2 " " 6 " " Auxiliary Condenser & general service
 5) Duplex " " 3 3/4 " " 4 " " Freshwater
 6) Injector to supply 12 1/2 Tons water per. hour to Boilers.

Material and workmanship of these Engines and Boilers are of very best description, the output is ample, The Tests of the Steel Boiler material signed by the Steam Surveyors, are in my hands. The Forgings Certificates of shaping and other large Forgings will be found attached. I attended to a satisfactory trial trip from Teasburg to Hamburg, where the machinery gave full satisfaction. I beg to recommend that the machinery be closed and that **LMC 6, 13**, be entered in the Society's Register Book and that a Certificate be issued to this effect.

The amount of Entry Fee	63	When applied for,	<i>It is submitted that</i> <i>this vessel is eligible for</i> THE RECORD. + LMC 6.13
Special	1267	28/6/13	
Donkey Boiler Fee		When received,	
Travelling Expenses (if any)	2.50	1.7	F.D. <i>Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.</i> <i>Koller</i>

Committee's Minute TUE JUL 8-1913

Assigned + Lmb 613

F.D. **MACHINERY CERTIFIED** © 2020

WRITTEN

Surveyor's Signature _____

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Foundation

