

REPORT ON MACHINERY.

Port of Göteborg

Received at London Office **MON. 3 SEP 1906**

No. in Survey held at Lödöse and Göteborg

Date, first Survey 25th Nov 1905 Last Survey 31st August 1906

(Number of Visits 13)

27 on the Stul S.S. Beda

Tons ^{Gross} 218
_{Net} 110
When built 1906

Master A. G. Mellin Built at Lödöse By whom built Ahlbom & Lödöse Varf

Engines made at Lödöse By whom made Ahlbom & Lödöse Varf when made 1906

Boilers made at Lödöse By whom made Ahlbom & Lödöse Varf when made 1906

Registered Horse Power _____ Owners Rederiaktiebolaget "Urda" Port belonging to Göteborg

Nom. Horse Power as per Section 28 20 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted no

ENGINES, &c.—Description of Engines vertical compound No. of Cylinders 2 No. of Cranks 2

Dia. of Cylinders 10" 2 2 1/2" Length of Stroke 15" Revs. per minute 130 Dia. of Screw shaft ^{as per rule} 5 3/4" Material of steel
_{as fitted} 5 1/4" screw shaft)

Is the screw shaft fitted with a continuous liner the whole length of the stern tube no 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 yes ~~If two liners are fitted, is the shaft lapped or protected between the liners~~ Cedernwäls pat. prod. box fitted Length of stern bush 4'6"

Dia. of Tunnel shaft ^{as per rule} 4 1/2" Dia. of Crank shaft journals ^{as fitted} 4 1/2" Dia. of Crank pin 4 1/2" Size of Crank webs 5 1/4" x 3" Dia. of thrust shaft under collars 4 1/2" Dia. of screw 6'6" Pitch of Screw 7'6" No. of Blades 4 State whether moveable no Total surface 130'

No. of Feed pumps 1 Diameter of ditto 1 1/2" Stroke 7" Can one be overhauled while the other is at work yes

No. of Bilge pumps 1 Diameter of ditto 1 1/2" Stroke 7" Can one be overhauled while the other is at work yes

No. of Donkey Engines 1 Sizes of Pumps 4 1/2" x 2 3/4" x 4" Worthington No. and size of Suctions connected to both Bilge and Donkey pumps In Engine Room One 2" In Holds, &c. One 3"

No. of Bilge Injections One sizes 3 3/4" Connected to condenser, or to circulating pump no Is a separate Donkey Suction fitted in Engine room & size yes - 2"

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 both

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 none How are they protected yes

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 26/7/06 of Stern Tube 26/7/06 Screw shaft and Propeller 26/7/06

Is the Screw Shaft Tunnel watertight no Is it fitted with a watertight door yes worked from yes

BOILERS, &c.—(Letter for record S) Manufacturers of Steel Blechwalzwerk Schney Krauss, Essen, Ruhr.

Total Heating Surface of Boilers 3630 Is Forced Draft fitted no No. and Description of Boilers one cylindrical multitubular

Working Pressure 120 lbs per sq. in. Tested by hydraulic pressure to 240 lbs per sq. in. Date of test 19th July 1906 No. of Certificate 29

Can each boiler be worked separately yes Area of fire grate in each boiler 120 No. and Description of Safety Valves to each boiler 2 spring loaded Area of each valve 70 Pressure to which they are adjusted 125 lbs per sq. in. Are they fitted with easing gear yes

Smallest distance between boilers or uptakes and bunkers or woodwork 8" Mean dia. of boilers 7'7 1/2" Length 7'4 1/2" Material of shell plates steel

Thickness 1 1/2" Range of tensile strength 43,200 lbs per sq. in. Are the shell plates welded or flanged no Descrip. of riveting: cir. seams none long. seams all chains all rivets Diameter of rivet holes in long. seams 1 1/16" Pitch of rivets 3 3/8" Lap of plates or width of butt straps 7 3/4"

Per centages of strength of longitudinal joint ^{rivets} 77 Working pressure of shell by rules 121 lbs per sq. in. Size of manhole in shell 11" x 16" _{plate} 76

Size of compensating ring 4" x 1 1/2" No. and Description of Furnaces in each boiler one corrugated Material steel Outside diameter 37 1/4"

Length of plain part 62" Thickness of plates ^{top} 7 1/16" _{bottom} 7 1/16" Description of longitudinal joint welded No. of strengthening rings yes

Working pressure of furnace by the rules 168 lbs per sq. in. Combustion chamber plates: Material steel Thickness: Sides 1/2" Back 1/2" Top 1/2" Bottom 1/2"

Pitch of stays to ditto: Sides 7' x 7 1/2" Back 7' x 7" Top 7' x 7 1/2" If stays are fitted with nuts or riveted heads riveted heads Working pressure by rules 122 lbs per sq. in.

Material of stays steel Diameter at smallest part 1 1/8" Area supported by each stay 52.5 Working pressure by rules 51 lbs End plates in steam space: Material steel Thickness 1 1/16" Pitch of stays 15" x 12 1/2" How are stays secured all rivets Working pressure by rules 42 lbs Material of stays steel

Diameter at smallest part 2" Area supported by each stay 188 Working pressure by rules 167 lbs Material of Front plates at bottom steel

Thickness 1 1/16" Material of Lower back plate steel Thickness 1 1/16" Greatest pitch of stays as per rules Working pressure of plate by rules _____

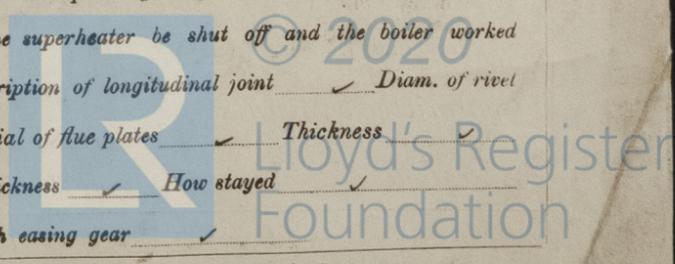
Diameter of tubes 3 1/8" Pitch of tubes 4 1/4" x 4 1/4" Material of tube plates steel Thickness: Front 1 1/16" Back 1 1/16" Mean pitch of stays 11 1/2"

Pitch across wide water spaces 11" Working pressures by rules 118 lbs per sq. in. Girders to Chamber tops: Material steel Depth and thickness of girder at centre 6 1/2" x 1" Length as per rule 18" Distance apart 7" Number and pitch of stays in each one - 7 1/2"

Working pressure by rules 210 lbs Superheater or Steam chest; how connected to boiler none fitted Can the superheater be shut off and the boiler worked separately yes Diameter yes Length yes Thickness of shell plates yes Material yes Description of longitudinal joint yes Diam. of rivet holes yes Pitch of rivets yes Working pressure of shell by rules yes Diameter of flue yes Material of flue plates yes Thickness yes

If stiffened with rings yes Distance between rings yes Working pressure by rules yes End plates: Thickness yes How stayed yes

Working pressure of end plates yes Area of safety valves to superheater yes Are they fitted with easing gear yes



VERTICAL DONKEY BOILER— ~~Manufacturers of Steel~~ *No donkey boiler fitted.*

No.	Description				
Made at	By whom made	When made	Where fixed		
Working pressure	tested by hydraulic pressure to	Date of test	No. of Certificate	Fire grate area	Description of Safety
Valves	No. of Safety Valves	Area of each	Pressure to which they are adjusted	Date of adjustment	
If fitted with easing gear	If steam from main boilers can enter the donkey boiler		Dia. of donkey boiler	Length	
Material of shell plates	Thickness	Range of tensile strength	Descrip. of riveting long. seams		
Dia. of rivet holes	Whether punched or drilled	Pitch of rivets	Lap of plating	Per centage of strength of joint	Rivets Plates
Working pressure of shell by rules	Thickness of shell crown plates	Radius of do.	No. of stays to do.	Dia. of stays	
Diameter of furnace Top	Bottom	Length of furnace	Thickness of furnace plates	Description of joint	
Working pressure of furnace by rules	Thickness of furnace crown plates		Stayed by		
Diameter of uptake	Thickness of uptake plates	Thickness of water tubes	Dates of survey		

SPARE GEAR. State the articles supplied:— One pair of main bearing bolts with nuts, one pair of bottom end bolts with nuts, one pair of top end bolts with nuts, one set of coupling bolts with nuts. One set of piston springs. One set of feed and bilge pump valves. Iron of various size. Bolts and nuts of various sizes. One propeller.

The foregoing is a correct description,

Manufacturer.

Dates of Survey while building: During progress of work in shops— 25th Nov 1905, 22nd, 28th Feb, 17th, 22nd March; 23rd April; 7th, 21st May; 18th June 1906.
 During erection on board vessel— 19th, 26th July; 22nd, 31st August 1906.
 Total No. of visits 13

Is the approved plan of main boiler forwarded herewith No, per Commercial Paper donkey

Dates of Examination of principal parts— Cylinders 29/11/05, 17/3, 23/4, 18/6/06. Slides 7/5/06. Covers 7/5/06. Pistons 7/5/06. Rods 7/5/06.
 Connecting rods 7/5/06. Crank shaft 28/18/06. Thrust shaft 23/18/06. Tunnel shafts ✓. Screw shaft 28/23/4, 18/6/06. Propeller 7/5/06.
 Stern tube 18/6/06. Steam pipes tested 19/7/06. Engine and boiler seatings 18/6/06, 24/7/06. Engines holding down bolts 22/8/06.
 Completion of pumping arrangements 22/8/06. Boilers fixed 22/8/06. Engines tried under steam 22/8/06.
 Main boiler safety valves adjusted 31st August 06. Thickness of adjusting washers no washers fitted, nuts securely fixed.
 Material of Crank shaft Steel Identification Mark on Do. 18.6.06 V.C.B. Material of Thrust shaft Steel Identification Mark on Do. 18.6.06 V.C.B.
 Material of Tunnel shafts ✓ Identification Marks on Do. ✓ Material of Screw shafts Steel Identification Marks on Do. 18.6.06 V.C.B.
 Material of Steam Pipes Copper Test pressure 240 lbs per sq"

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

This machinery has been constructed under the usual conditions of Survey. The cylinders with valve casings, condenser, steam pipes, feed pipes, feed pumps and boiler mountings have been tested with water pressure. The Forgings as per report attached. The boiler has been built in accordance with the approved plan forwarded to London per commercial papers post of material manufactured at a works approved by the Committee. The boiler material has been tested as required by the rules. The workmanship is good and the engines have been tried under steam and found working satisfactory. The machinery of this vessel is in a good and safe working condition at a working pressure of 120 lbs per sq" and eligible in my opinion to be classed in the Register Book of this Society with the notation of **LMC 8.06.**

It is submitted that this vessel is eligible for THE REGD L.M.C. 8.06
[Signature]
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

The amount of Entry Fee..	£ 1 : 0 :	When applied for,
Special	£ 8 : 0 :	23 rd Aug. 1906
Donkey Boiler Fee .. .	£ :	When received,
Travelling Expenses (if any) £	:	24 th Aug. 1906

TUES. 11 SEP 1906

Committee's Minute
 Assigned

Certificate (if required) to be sent to Surveyors office, Galloway

