

# REPORT ON MACHINERY.

No. 1538

Port of Göteborg

MUN. 18 MAY 1908

Received at London Office

No. in Survey held at Lödöse and Göteborg Date, first Survey 18<sup>th</sup> June 1906 Last Survey 8<sup>th</sup> May 1908.

112 on the Steel Screw Steamer "Sita"

(Number of Visits 34)

Master O. W. Thorsell Built at Lödöse

By whom built Aktiebolaget Lödöse Varf

Tons { Gross 542  
Net 298  
When built 1908

Engines made at Lödöse

By whom made Aktiebolaget Lödöse Varf

when made 1908

Boilers made at Lödöse

By whom made Aktiebolaget Lödöse Varf

when made 1908

Registered Horse Power 66

Owners Rederiaktiebolaget Concordia

Port belonging to Göteborg

Nom. Horse Power as per Section 28 66

Is Refrigerating Machinery fitted for cargo purposes no

Is Electric Light fitted no

## ENGINES, &c.—Description of Engines Compound

No. of Cylinders 2

No. of Cranks 2

Dia. of Cylinders 16 1/2" & 36"

Length of Stroke 24"

Revs. per minute 125

Dia. of Screw shaft 8 1/4"

as per rule 8 1/4"

as fitted 8 1/16"

Material of screw shaft steel

Is the screw shaft fitted with a continuous liner the whole length of the stern tube no liner fitted Is the after end of the liner made water tight in the propeller boss ✓ 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 Rederwallspat. post. box fitted Length of stern bush 6' 4 1/8"

Dia. of Tunnel shaft 7 1/16"

Dia. of Crank shaft journals 7 1/8"

Dia. of Crank pin 7 5/8"

Size of Crank webs 4 1/16" x 8 3/4"

Dia. of thrust shaft under collars 7 9/16"

Dia. of screw 10"

Pitch of Screw 10"

No. of Blades 4

State whether moveable no

Total surface 280'

No. of Feed pumps 1

Diameter of ditto 2 1/2"

Stroke 12"

Can one be overhauled while the other is at work ✓

No. of Bilge pumps 1

Diameter of ditto 2 1/2"

Stroke 12"

Can one be overhauled while the other is at work ✓

No. of Donkey Engines 2

Sizes of Pumps 6" x 7 1/2" x 6" & 2 3/4" x 4 1/2" x 4"

No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room None, one 2" connected to bilge pump and one 2" connected to donkey pump. In Holds, &c. None, one 2" connected to donkey pump.

No. of Bilge Injections 1

sizes 3 1/4"

Connected to condenser, or to circulating pump no Is a separate Donkey Suction fitted in Engine room & size yes 3"

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 fitted

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 accessible, no, but easily 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 ✓

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 23<sup>rd</sup> January of Stern Tube 1<sup>st</sup> Feb 1907 Screw shaft and Propeller 23<sup>rd</sup> Jan. 1908

Is the Screw Shaft Tunnel watertight None fitted Is it fitted with a watertight door ✓ worked from ✓

## BOILERS, &c.—(Letter for record S) Manufacturers of Steel Blechnalwerk Schlegel, Rnaundt, Essen - Ruhr.

Total Heating Surface of Boilers 11650'

Is Forced Draft fitted no

No. and Description of Boilers Two, cylindrical multitubular

Working Pressure 125 lbs per sq. in.

Tested by hydraulic pressure to 250 lbs per sq. in.

Date of test 14<sup>th</sup> & 19<sup>th</sup> Feb 1908 No. of Certificates 34 & 35

Can each boiler be worked separately yes

Area of fire grate in each boiler 300 sq. ft.

No. and Description of Safety Valves to each boiler Two, spring loaded Area of each valve 70 sq. in. Pressure to which they are adjusted 128 lbs per sq. in. Are they fitted with easing gear yes

Smallest distance between boilers or uptakes and bunkers or woodwork 9" Mean dia. of boilers 8' 10 1/2" Length 8' 10" Material of shell plates steel

Thickness 2 1/32"

Range of tensile strength 48-43.8 lbs per sq. in. Are the shell plates welded or flanged no

Descrip. of riveting: cir. seams none

Long. seams all straps & rivets Diameter of rivet holes in long. seams 7/8" Pitch of rivets 3 5/8" Lap of plates or width of butt straps 9 1/2"

Percentages of strength of longitudinal joint

rivets 75.1

plate 75.86 Working pressure of shell by rules 126 lbs per sq. in.

Size of manhole in shell 16" x 12"

Size of compensating ring 5" x 2 1/32"

No. and Description of Furnaces in each boiler Two corrugated Material steel Outside diameter 2' 10 1/2"

Length of plain part 6' 4"

Thickness of plates 7/16"

Description of longitudinal joint none

No. of strengthening rings ✓

Working pressure of furnace by the rules 182 lbs Combustion chamber plates: Material steel Thickness: Sides 9/16" Back 9/16" Top 9/16" Bottom 9/16"

Pitch of stays to ditto: Sides 8 7/8" x 7" Back 8" x 8" Top 8 7/8" x 7" If stays are fitted with nuts or riveted heads both Working pressure by rules 127 lbs per sq. in.

Material of stays steel Diameter at smallest part 1 1/8" Area supported by each stay 64 sq. in. Working pressure by rules 125 lbs End plates in steam space:

Material steel Thickness 3/4" Pitch of stays 16" x 14" How are stays secured fl. nuts and washers riv. on Working pressure by rules 141 lbs per sq. in. Material of stays steel

Diameter at smallest part 2" Area supported by each stay 224 sq. in. Working pressure by rules 146 lbs Material of Front plates at bottom steel

Thickness 3/4" Material of Lower back plate steel Thickness 3/4" Greatest pitch of stays 12" Working pressure of plate by rules 135 lbs per sq. in.

Diameter of tubes 3" Pitch of tubes 4 1/4" x 4" Material of tube plates steel Thickness: Front 3/4" Back 3/4" Mean pitch of stays 12.8"

Pitch across wide water spaces 13" Working pressures by rules 136 lbs per sq. in. Girders to Chamber tops: Material steel Depth and

thickness of girder at centre (4 5/16" x 3 1/4") Length as per rule 19 1/2" Distance apart 8 7/8" Number and pitch of stays in each two, 7"

Working pressure by rules 137 lbs per sq. in. Superheater or Steam chest; how connected to boiler None fitted Can the superheater be shut off and the boiler worked

separately no Diameter 12" Length 12" Thickness of shell plates 3/4" Material steel Description of longitudinal joint none Diam. of rivet

holes 3/4" Pitch of rivets 3 1/8" Working pressure of shell by rules 136 lbs per sq. in. Diameter of flue 12" Material of flue plates steel Thickness 3/4"

If stiffened with rings no Distance between rings 12" Working pressure by rules 136 lbs per sq. in. End plates: Thickness 3/4" How stayed no

Working pressure of end plates 136 lbs per sq. in. Area of safety valves to superheater no Are they fitted with easing gear no

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Lloyd's Register Foundation W885-0073

VERTICAL DONKEY BOILER— Manufacturers of Steel

Table with columns: 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:— Two connecting rod top end bolts with nuts, two connecting rod bottom end bolts with nuts, two main bearing bolts with nuts, one set of coupling bolts, one set of feed and bilge pump valves, one set of piston springs. A quantity of assorted bolts with nuts and iron of various sizes.

The foregoing is a correct description,

Manufacturer. *Carl Hauberg*

Table with columns: Dates of Survey while building, During progress of work in shops, During erection on board vessel, Total No. of visits, Is the approved plan of main boiler forwarded herewith form per. Com. Reg. P.

Table with columns: Dates of Examination of principal parts, Connecting rods, Crank shaft, Thrust shaft, Tunnel shafts, Screw shafts, Propeller, Stern tube, Steam pipes tested, Engine and boiler seatings, Engines holding down bolts, Completion of pumping arrangements, Boilers fixed, Engines tried under steam, Main boiler safety valves adjusted, Thickness of adjusting washers, Material of Crank shaft, Identification Mark on Do., Material of Thrust shaft, Identification Mark on Do., Material of Tunnel shafts, Identification Marks on Do., Material of Screw shafts, Identification Marks on Do., Material of Steam Pipes, Test pressure.

General Remarks (State quality of workmanship, opinions as to class, &c. This machinery has been built under the usual conditions of survey. Condenser tested with water pressure. Steam and feed pipes tested to double the working pressure. The sheffing as per forging report attached.

The main boilers have been built in accordance with the approved plans, forwarded to London per commercial papers post, of material tested as required by the rules. The workmanship is good.

The plans of this machinery are duplicates of the plans for the machinery of the steamer "Alma" No. 663 in the Register Books.

To complete survey:— A branch pipe with valve to be fitted from the main engine bilge pump to the aux. valve chest in order to enable the main engine bilge pump to draw from the well in the hold. The owner states that the survey will be completed at this port in a few days time.

The machinery of this vessel is in a good and safe working condition at a working pressure of 125 lbs per sq. in. and eligible in my opinion to be classed in the Reg. Book of this Society with the notation of LMC 5,08 subject to the survey be completed as above. Boiler pressure 125 lbs per sq. in.

Table with columns: The amount of Entry Fee, Special, Donkey Boiler Fee, Travelling Expenses (if any), When applied for, When received.

Signature: *H. Paulson*  
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute  
Assigned  
TUES. 2 JUN 1908  
WED. 10 JUN 1908  
*Deferes*

MACHINERY CERTIFICATE WRITTEN



Certificate (if required) to be sent to Surveyors office, Goleenlang.

Vertical text on the right margin: Date of written, No. in Reg. Book, Tonnage, Registered Horse Power, No. of Main Plates, No. of Donkey Steam Pressure in Main Boiler in Donkey, Last Survey Particulars, (Periodical Survey account of Re- account of Re- besides being dates and t, In damage declined, Did the Survey Do., If this was n, And what pa, Also what sp, Surveyor t, Did the Sur, Did the Sur, Did the Sur, Did the Sur, Has screw, Has shaft, Is the shaft, State the d, If the Sur, neco, eng, com, Gener, (stat, wor, in, not, Survey P, Special D, Travellin, Com, Assig