

REPORT ON MACHINERY.

Port of

Received at London Office 31 JUL 1899

No. in Survey held at *Lindholmen Gothenborg* Date, first Survey *1 March 1899* Last Survey *12 July* 1899
 Book. (Number of Visits)

on the *Main boilers and Machinery of S. S. Erik*
 Master *A. P. Pettersen* Built at *Gothenburg* By whom built *Lindholmen Verkstads AB.* When built *1899*
 Engines made at *Newcastle on Tyne* By whom made *North Eastern Marine Eng. Co.* when made *6. 1899*
 Boilers made at *Gothenburg* By whom made *Lindholmen Verkstads AB.* when made *7. 1899*
 Registered Horse Power Owners *Rederi bolaget Roslagen* Port belonging to *Stockholm*
 Horse Power as per Section 28 *81.5*

ENGINES, &c.— Description of Engines *Triple* No. of Cylinders *3*
 Diameter of Cylinders *13 1/2", 22 1/2", 36"* Length of Stroke *27* Revolutions per minute *103* Diameter of Screw shaft *as per rule 7 1/16"*
 Diameter of Tunnel shaft *as per rule 6 5/8"* Diameter of Crank shaft journals *7"* Diameter of Crank pin *7"* Size of Crank webs *4 7/8" x 13 7/8"*
 Diameter of screw *9' 6"* Pitch of screw *10' 9"* No. of blades *4* State whether moveable *no* Total surface *29.5*
 of Feed pumps *2* Diameter of ditto *2 1/2"* Stroke *13 1/2"* Can one be overhauled while the other is at work *yes*
 of Bilge pumps *2* Diameter of ditto *2 1/2"* Stroke *13 1/2"* Can one be overhauled while the other is at work *yes*
 of Donkey Engines *3* Sizes of Pumps *6" x 8 1/2" x 6", 5 1/2" x 3 1/2" x 5"* No. and size of Suctions connected to both Bilge and Donkey pumps
 Engine Room *two 2 1/2" diam.* In Holds, &c. *four 2 1/2" diam.*

Bilge injections *2* sizes Connected *to condenser, or to circulating pump* Is a separate donkey suction fitted in Engine room & size *yes 2 1/2" diam.*
 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
 All connections with the sea direct on the skin of the ship *yes* Are they Valves or Cocks *valves*
 They fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates *not all* Are the discharge pipes above or below the deep water line *above*
 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*
 Pipes are carried through the bunkers *none* How are they protected
 All pipes, cocks, valves, and pumps in connection with the machinery and all boiler mountings accessible at all times *yes*
 The bilge suction pipes, cocks, and valves arranged so as to prevent any communication between the sea and the bilges *yes*
 Were stern tube, propeller, screw shaft, and all connections examined in dry dock Is the screw shaft tunnel watertight *yes*
 Fitted with a watertight door *yes* worked from *upper engine platform*

BOILERS, &c.— (Letter for record) Total Heating Surface of Boilers *1408 sq. ft.*
 Kind and Description of Boilers *One cylindrical single ended boiler* Working Pressure *170 lbs* Tested by hydraulic pressure to *340*
 of test *12/7 99* Can each boiler be worked separately Area of fire grate in each boiler *44.6* No. and Description of safety valves to
 boiler *one double spring loaded* Area of each valve *12.17 sq. in.* Pressure to which they are adjusted *175 lbs.* Are they fitted
 easing gear *yes* Smallest distance between boilers or uptakes and bunkers or woodwork *12"* Mean diameter of boilers *12' 6"*
 of *9' 5"* Material of shell plates *steel* Thickness *1 1/16"* Description of riveting: circum. seams *double* long. seams *triple riveted double butt straps*
 Diameter of rivet holes in long. seams *1 1/16"* Pitch of rivets *7"* Lap of plates or width of butt straps *15 1/2"*
 Percentages of strength of longitudinal joint rivets *87.4* Working pressure of shell by rules *170.1* Size of manhole in shell *17" x 12"*
 of compensating ring *2' 3"* No. and Description of Furnaces in each boiler *3 Purves* Material *steel* Outside diameter *36"*
 of plain part top Thickness of plates crown *9/16"* Description of longitudinal joint No. of strengthening rings
 bottom Thickness of plates bottom *9/16"*
 Working pressure of furnace by the rules *225 1/2* Combustion chamber plates: Material *steel* Thickness: Sides *7/8"* Back *7/8"* Top *7/8"* Bottom *7/8"*
 of stays to ditto: Sides *7 1/2"* Back *7 1/2"* Top *7 1/2"* If stays are fitted with nuts or riveted heads *riveted* Working pressure by rules *214 lbs*
 Material of stays *steel* Diameter at smallest part *1 1/2"* Area supported by each stay *7.22* Working pressure by rules *170 lbs* End plates in steam space:
 Material *steel* Thickness *7/8"* Pitch of stays *15 1/2"* How are stays secured *double washers and nuts* Working pressure by rules *179 lbs* Material of stays *steel*
 Diameter at smallest part *2 3/8"* Area supported by each stay *4.42* Working pressure by rules *170 lbs* Material of Front plates at bottom *steel*
 Thickness *3/4"* Material of Lower back plate *steel* Thickness *7/8"* Greatest pitch of stays *7 1/2"* Working pressure of plate by rules *177 lbs.*
 Diameter of tubes *3 1/4"* Pitch of tubes *4 1/2"* Material of tube plates *steel* Thickness: Front *3/4"* Back *3/4"* Mean pitch of stays *9' 10"*
 across wide water spaces *13 1/4"* Working pressures by rules *196 lbs* Girders to Chamber tops: Material *steel* Depth and
 thickness of girder at centre *5 1/2" x 1 1/2"* Length as per rule *2' 3"* Distance apart *7 1/2"* Number and pitch of Stays in each *2 stays*
 Working pressure by rules *194 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
 Pitch of rivets Working pressure of shell by rules Diameter of flue Material of flue plates Thickness
 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

DONKEY BOILER— Description *Cochran's patent see particulars attached*
Made at *Birkenhead* By whom made *Messrs Cochran & Co* When made *1899* Where fixed *Between Eng. & A.*
Working pressure *90* tested by hydraulic pressure to *180* No. of Certificate *1557* Fire grate area *18½* Description of safety valves *one double single*
No. of safety valves *1* Area of each *4.92* Pressure to which they are adjusted *95* If fitted with easing gear *yes* If steam from main boilers can enter the donkey boiler *no* Diameter of donkey boiler *5'-9"* Length *13'-0"* Material of shell plates *steel* Thickness *7/16"*
Description of riveting long. seams *double riveted lap jointed* Diameter of rivet holes *1/16"* Whether punched or drilled *drilled* Pitch of rivets *2 1/2"*
Lap of plating *4 5/8"* Per centage of strength of joint *Rivets* Thickness of shell crown plates *3/32"* Radius of do. *2'-10 1/2"* No. of Stays to do. *Plates*
Dia. of stays. Diameter of furnace Top Bottom Length of furnace Thickness of furnace plates *15/32"* Description of joint Thickness of furnace crown plates *15/32"* Stayed by Working pressure of shell by rules *90.5*
Working pressure of furnace by rules Diameter of uptake Thickness of uptake plates Thickness of water tubes

SPARE GEAR. State the articles supplied:— *4 propeller, piston valve for HP cylinder, 2 main bearing bolts with 2 bolts for bottom brasses of connecting rod, 2 bolts for top brasses of connecting rod, 5 studs with nuts for cylinder steamchest covers, 2 bolts for piston packings, 1 air pump rod, 2 feed pump valves with seats 2 bilge pump 2 air pump valves, 1 set circulating pump valves, 20 condenser tubes, 10 condenser tubes, 1 set coupling for main shafting, 1 set of safety valve springs, 1 set of check valves, 1 bilge pump valve, 1 donkey pump valve, 5 condenser tubes for boiler, 12 gauge glasses, 1 set fire grate bars, 100 assorted*
The foregoing is a correct description,
LINDHOLMENS VERKSTADS AKTIEBOLAG Manufacturer. of Main Boilers only.
Sven Almqvist

General Remarks (State quality of workmanship, opinions as to class, &c. *Boiler made of steel with test certificate as per rules, all material in Engines and Boilers of good quality and workmanship sound throughout*
Class recommended 100 A1

It is submitted that
this vessel is eligible for
THE RECORD.
L.M.C. 7.99

Handwritten signature and date 8/8/99

Certificate (if required) to be sent to

The amount of Entry Fee..	£ 1	When applied for,
Special	£ 24.. 8.	18.....
Donkey Boiler Fee ..	£ 2	When received,
Travelling Expenses (if any) £		18.....

E. J. Adolph
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute
Assigned
TUES. 22 AUG 1899
Machinery Certificate
WRITTEN,
+ L.M.C. 7.99