

# REPORT ON MACHINERY.

No. 15448

Port of Greenock

No. in Survey held at Port Glasgow

Received at London Office **WED. 19 APR. 1908**  
Date, first Survey 19<sup>th</sup> Feb/08 Last Survey 29<sup>th</sup> July 1908

Reg. Book. 33 on the **SCREW STEAMER SABBIA.**

(Number of Visits 63)

Master Olivetti. Built at Port Glasgow By whom built Glyde S.B. Eng 6<sup>th</sup> Lin. Tons { Gross 2802.14  
Net 1799.58 When built 1908

Engines made at Port Glasgow By whom made Glyde S.B. Eng. 6<sup>th</sup> Lin. when made 1908

Boilers made at Port Glasgow By whom made Glyde S.B. Eng. 6<sup>th</sup> Lin. when made 1908

Registered Horse Power \_\_\_\_\_ Owners Nav. Libera Trieste Soc. in Azione Port belonging to Trieste

Nom. Horse Power as per Section 28 269 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted No

**ENGINES, &c.**—Description of Engines Triplic Expansion No. of Cylinders Three No. of Cranks Three

Dia. of Cylinders 23"-38"-61" Length of Stroke 42" Revs. per minute 90 Dia. of Screw shaft as per rule 12.9" Material of Iron  
as fitted 13.8" screw shaft

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 one length 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' 4 1/2"

Dia. of Tunnel shaft as per rule 11.49" Dia. of Crank shaft journals as per rule 12.05" Dia. of Crank pin 12 1/4" Size of Crank webs 22 1/2" x 7 1/2" Dia. of thrust shaft under collars 12 1/4" Dia. of screw 15' 9" Pitch of Screw 16' 0" No. of Blades 4 State whether moceable No Total surface 80 sq. ft.

No. of Feed pumps 2 Diameter of ditto 3 1/4" Stroke 21" Can one be overhauled while the other is at work Yes

No. of Bilge pumps 2 Diameter of ditto 4" Stroke 21" Can one be overhauled while the other is at work Yes

No. of Donkey Engines Three Sizes of Pumps (6 1/2 x 6) (5 1/2 x 3 1/2) (8 x 9 x 8) No. and size of Suctions connected to both Bilge and Donkey pumps In Engine Room Three: 1-3 1/2 dia and 2-3 dia In Holds, &c. No. 1 Hold: Two-3 dia. No. 2 Hold: Two-3 dia. No. 3 Hold: one-3 1/2 dia. No. 4 Hold: Two-3 dia. No. 5 Hold: one-2 1/2 dia.

No. of Bilge Injections 1 sizes 6" Connected to condenser, or to circulating pump C.P. Is a separate Donkey Suction fitted in Engine room & size Yes: 3 1/2"

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 \_\_\_\_\_

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 Yes 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 11/6/08 of Stern Tube 11/6/08 Screw shaft and Propeller 9/4/08

Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from Upper platform

**BOILERS, &c.**—(Letter for record \$ ) Manufacturers of Steel Steel 67 of Scotland

Total Heating Surface of Boilers 4244 Is Forced Draft fitted No No. and Description of Boilers 2: Cylind. Hull: Single End

Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs Date of test 4/12/08 No. of Certificate S.8938 894

Can each boiler be worked separately Yes Area of fire grate in each boiler 60 sq. ft. No. and Description of Safety Valves to each boiler 2: Direct Spring Area of each valve 4.06" Pressure to which they are adjusted 185 lbs Are they fitted with easing gear Yes

Smallest distance between boilers on uptakes and bunkers or woodwork 12" Mean dia. of boilers 15' 6" Length 10' 6" Material of shell plates Steel

Thickness 1 1/4" Range of tensile strength 28 to 32 tons Are the shell plates welded or flanged No Descrip. of riveting: cir. seams Lap Double long. seams Double Strap Diameter of rivet holes in long. seams 1 5/16" Pitch of rivets 9 3/8" 4 7/8" Lap of plates or width of butt straps 19 1/2"

Per centages of strength of longitudinal joint rivets 86. plate 86. Working pressure of shell by rules 189 lbs Size of manhole in shell 16" x 12" E.P.D.

Size of compensating ring plate flanged No. and Description of Furnaces in each boiler 3: Mousion's Material Steel Outside diameter 48 1/2"

Length of plain part top 6' 9" bottom 6' 9" Thickness of plates crow 9" bottom 7 1/2" Description of longitudinal joint weld No. of strengthening rings None

Working pressure of furnace by the rules 182 lbs Combustion chamber plates: Material Steel Thickness: Sides 19" 32" Back 19" 32" Top 19" 32" Bottom 3" 4"

Pitch of stays to ditto: Sides 7 3/8" x 9" Back 8 1/2" x 8" Top 7 3/8" x 9" If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 185 lbs

Material of stays Steel Diameter at smallest part 1 3/8" x 1 1/4" Area supported by each stay 66" Working pressure by rules 180 lbs End plates in steam space: Material Steel Thickness 1 1/8" Pitch of stays 14" x 18 1/2" How are stays secured Slit Nuts Working pressure by rules 185 lbs Material of stays Steel

Diameter at smallest part 2 1/4" Area supported by each stay 308" Working pressure by rules 189 lbs Material of Front plates at bottom Steel Thickness 1 3/16" Material of Lower back plate Steel Thickness 7/8" Greatest pitch of stays 14 1/2" Working pressure of plate by rules 191 lbs

Diameter of tubes 3 1/2" Pitch of tubes 4 1/2" x 4 1/2" Material of tube plates Steel Thickness: Front 1 1/8" Back 1 1/8" Mean pitch of stays 9 1/2"

Pitch across wide water spaces 15 1/2" Working pressures by rules 189 lbs 185 lbs Girders to Chamber tops: Material Steel Depth and thickness of girder at centre 9 1/2" x 1 3/4" Length as per rule 30 3/8" Distance apart 9" Number and pitch of stays in each 3: 7 3/8"

Working pressure by rules 237 lbs Superheater or Steam chest; how connected to boiler None 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 \_\_\_\_\_

If not, state whether, and when, one will be sent

Is a Report also sent on the Hull of the Ship?

Lloyd's Register

Lloyd's Register  
2019  
W798 Foundation

VERTICAL DONKEY BOILER— Manufacturers of Steel

No. See separate Description

Made at Rpt. attached 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:— Propeller and shaft, 2 main Bearing Bolts, 2 Crosshead Bolts

2 Crank pin Bolts, 1 set Coupling Bolts, 1 set Feed pump valves, 1 set Bilge pump valves,

1 set Piston Springs, 1 set Escape valve springs, 1 m. Boiler Safety valve Spring, 1 D. Boiler St. Spr.

1 set Air pump valves, 1 set Circulating pump valves. Bolts Nuts and Iron of various sizes

THE CLYBE SHIPBUILDING & ENGINEERING CO. LIMITED,

The foregoing is a correct description,

Manufacturer.

John S. Dunlop Secretary

Dates of Survey while building: During progress of work in shops - 1901 Feb 19, 21, 26, 28. Mar 2, 4, 6, 11, 17, 19, 20, 25. April 2, 3, 7, 15, 17, 20, 21, 22, 23, 27, 28, 29, 30. May 5, 7, 8, 11, 14, 18, 19, 20, 25, 26, 27, 28, 29. June 3, 4, 8, 10, 11, 12, 16, 18, 19, 23, 25, 29, 30. July 9, 10, 13, 14, 16, 20, 21, 22, 24, 27, 28, 29. Total No. of visits 63.

Is the approved plan of main boiler forwarded herewith Yes

Is the approved plan of donkey boiler forwarded herewith Yes

Dates of Examination of principal parts—Cylinders 29/7/08 Slides 12/6/08 Covers 29/7/08 Pistons 7/5/08 Rods 28/4/08

Connecting rods 24/4/08 Crank shaft 18/5/08 Thrust shaft 7/5/08 Tunnel shafts 7/5/08 Screw shaft 11/6/05 Propeller 11/6/05

Stern tube 7/5/08 Steam pipes tested 21/7/08 Engine and boiler seatings 11/6/08 Engines holding down bolts 18/7/08

Completion of pumping arrangements 27/7/08 Boilers fixed 18/7/08 Engines tried under steam 29/7/08

Main boiler safety valves adjusted 27/7/08 Thickness of adjusting washers 5 3/8 P 3/8 5 7/16 P 7/16 5 11/32 P 3/32

Material of Crank shaft Steel Identification Mark on Do. 727. Material of Thrust shaft Steel Identification Mark on Do. 728-2

Material of Tunnel shafts Steel Identification Marks on Do. 729-20, 731, 734. Material of Screw shafts Iron Identification Marks on Do. 732-3

Material of Steam Pipes Copper Test pressure 360 lbs.

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

The Engines and Boilers of this vessel have been built under special survey and the materials and workmanship are good. When completed they were examined under steam and found to work satisfactorily.

The machinery throughout is now in good and efficient condition and eligible in our opinion to have the record of LMC 7, 08. marked in the Society's Register Book.

It is submitted that this vessel is eligible for THE RECORD + LMC 7.08.

JWD 21/8/08 JRR 21/8/08

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

Wm R. Austin, R. Elliott, Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute GLASGOW 18 AUG. 1908

Assigned + LMC 7, 08.

MACHINERY CERTIFICATE WRITTEN 19.8.08



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Greenock Certificate (if required) to be sent to

(The Surveyors are requested not to write on or below the space for Committee's Minute.)