

# REPORT ON MACHINERY.

No. 7817

FRI. FEB. 27. 1914

Received at London Office

DUNDEE

Date of writing Report 23<sup>rd</sup> Feb. 1914 When handed in at Local Office 26 FEB 1914 Port of

No. in Survey held at Dundee

Date, First Survey 25<sup>th</sup> Sept. 1912 Last Survey 23<sup>rd</sup> February 1914

(Number of Visits 53...)

Machinery of the STEEL TWIN SC. 3 Mast. S.S. "SEBASTIAN"

Tons } Gross 3110.37  
Net 1845.74

RUDDER Built at Dundee By whom built Calder S.B. & E. Co., L. When built 1914-2

Sickla By whom made Whitehead Disels Motor when made 1914

Dundee By whom made Calder S.B. & E. Co., L. when made 1914

Power Owners Lane & Macandrew Port belonging to London

Is Refrigerating Machinery fitted for cargo purposes *no* Is Electric Light fitted *yes*

&c.—Description of Engine *Four Stroke, 2 stroke cycle, single acting* No. of Cylinders 12 No. of Cranks 12

Length of Stroke 540 <sup>3 1/4</sup> Revs. per minute 126 Dia. of Screw shaft *10 1/4* Material of *Steel*

Is the after end of the liner made water tight *yes* If the liner does not fit tightly at the part

rings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive *yes* If two

is the shaft lapped or protected between the liners *coated only* Length of stern bush 3'-3"

Dia. of Crank shaft journals *9 1/4* Dia. of Crank pin *7-9* Size of Crank webs *46* Dia. of thrust shaft under

Dia. of screw *11'-0"* Pitch of Screw *7-9* No. of Blades 4 State whether moveable *solid* Total surface *46*

Can one be overhauled while the other is at work

Can one be overhauled while the other is at work

Sizes of Pumps *1 Ballast pump 2 Bilge pumps 1 Donkey pump 4 @ 3"* No. and size of Suctions connected to both Bilge and Donkey pumps

In Holds, &c. *For pump 1 @ 4", After pump 1 @ 3 1/2"*

Connected to condenser, or to circulating pump *yes* Is a separate Donkey Suction fitted in Engine room & size *yes - 3"*

Are the roses in Engine room always accessible *yes* Are the sluices on Engine room bulkheads always accessible *no*

Are they Valves or Cocks *both*

Are the Discharge Pipes above or below the deep water line *above*

Are the Blow Off Cocks fitted with a spigot and brass covering plate *yes*

How are they protected *yes*

Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times *yes*

Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges *yes*

of completion of fitting of Sea Connections 2 F-1-14 of Stern Tubes 2 F-1-14 Screw shafts and Propellers 2 F-1-14

Is it fitted with a watertight door *yes* worked from *yes*

Manufacturers of Steel

No. and Description of Boilers *No Main Boilers*

Is Forced Draft fitted

Tested by hydraulic pressure to

Date of test

No. of Certificate

No. and Description of Safety Valves to

Are they fitted with easing gear

Area of each valve

Pressure to which they are adjusted

Mean dia. of boilers

Length

Material of shell plates

Range of tensile strength

Are the shell plates welded or flanged

Descrip. of riveting: cir. seams

Diameter of rivet holes in long. seams

Pitch of rivets

Lap of plates or width of butt straps

Strength of longitudinal joint

Working pressure of shell by rules

Size of manhole in shell

No. and Description of Furnaces in each boiler

Material

Outside diameter

No. of strengthening rings

Thickness of plates

Description of longitudinal joint

Back

Top

Bottom

Working pressure by rules

End plates in steam space:

Material of stays

Working pressure by rules

Material of Front plates at bottom

Working pressure of plate by rules

Material of Lower back plate

Thickness

Greatest pitch of stays

Working pressure of plate by rules

Pitch of tubes

Material of tube plates

Thickness: Front

Back

Mean pitch of stays

Working pressures by rules

Girders to Chamber tops: Material

Depth and

Number and pitch of stays in each

Distance apart

Superheater or Steam chest; how connected to boiler

Can the superheater be shut off and the boiler worked

Pressure by rules

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

Working pressure by rules

End plates: Thickness

How stayed

Distance between rings

Working pressure by rules

Are they fitted with easing gear

Working pressure of end plates

Area of safety valves to superheater

Are they fitted with easing gear

*Also in all cases where machinery is built in one District & placed on board in another the total fee is apportioned 2/3 to the port of construction & 1/3 to the port where fitted on board. For twin screw engines the total power is taken in charging the fee, not twice the fee for half the power.*

STEAM

Lloyd's Register Foundation W777-0037 W777-0043(2/2)

VERTICAL DONKEY BOILER— Manufacturers of Steel

No. *See Report 5a on Donkey Boilers.*  
 Description *See Report 5a on Donkey Boilers.*  
 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 \_\_\_\_\_  
 Valves \_\_\_\_\_ No. of Safety Valves \_\_\_\_\_ Area of each \_\_\_\_\_ Pressure to which they are adjusted \_\_\_\_\_ Date of adjust \_\_\_\_\_  
 If fitted with easing gear \_\_\_\_\_ If steam from main boilers can enter the donkey boiler \_\_\_\_\_ Dia. of donkey boiler \_\_\_\_\_  
 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 \_\_\_\_\_  
 Working pressure of shell by rules \_\_\_\_\_ Thickness of shell crown plates \_\_\_\_\_ Radius of do. \_\_\_\_\_ No. of stays to do. \_\_\_\_\_ Dia. of stay \_\_\_\_\_  
 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 \_\_\_\_\_ Radius of do. \_\_\_\_\_ Stayed \_\_\_\_\_  
 Diameter of uptake \_\_\_\_\_ Thickness of uptake plates \_\_\_\_\_ Thickness of water tubes \_\_\_\_\_ Dates of survey \_\_\_\_\_

SPARE GEAR. State the articles supplied:— 2 propeller shafts; 2 C.I. propellers; set comprising belts & rollers; 20 Condensers (Additional 6 belts on Repts. 1209, 1239, 1240) & fuel  
 set of fuel, bridge, air, & circulating pumps valves & seats; 2 check valves; 6 ballast pump valve springs & seats; 1 air & 1  
 bucket & rod; 3 safety valves, 3 escape valves, & 2 fuel escape valve springs; spare set of fire bars; glass gauges & rods  
 assorted studs; 30 boiler bolts.

The foregoing is a correct description,

FOR THE CALEDON SHIPBUILDING & ENGINEERING CO., LIMITED.

Manufacturer.

*J. G. Bruce*

SECRETARY

Dates of Survey while building	During progress of work in shops	25/9/12	28/10/12	4/11/12	12/12/12	19/12/12	5/1/13	25/1/13	11/2/13	8/3/13	10/4/13	11/4/13	16/4/13	21/4/13	24/4/13						
	During erection on board vessel	6/5/13	4/9/13	11/9/13	12/9/13	15/9/13	23/9/13	25/9/13	27/9/13	29/9/13	30/9/13	2/10/13	9/10/13	23/10/13	29/10/13	4/11/13	14/11/13	21/11/13	4/12/13	5/12/13	17/12/13
	Total No. of visits	53																			

Dates of Examination of principal parts—Cylinders \_\_\_\_\_ Slides \_\_\_\_\_ Covers \_\_\_\_\_ Pistons \_\_\_\_\_  
 Connecting rods \_\_\_\_\_ Crank shaft \_\_\_\_\_ Thrust shaft \_\_\_\_\_ Tunnel shafts \_\_\_\_\_ Screw shafts \_\_\_\_\_  
 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 \_\_\_\_\_  
 Material of Tunnel shafts \_\_\_\_\_ Identification Marks on Do. \_\_\_\_\_ Material of Screw shafts \_\_\_\_\_ Identification Marks on \_\_\_\_\_  
 Material of Steam Pipes \_\_\_\_\_ Test pressure \_\_\_\_\_

General Remarks (State quality of workmanship, opinions as to class, &c. *This vessel's donkey boiler, part of the machinery, has been constructed under special in accordance with the approved plans and the Society's Rules. The material and workmanship are of good description. The machinery has been fitted on board, examined under working conditions and found satisfactory; and eligible, in opinion, to have record of + L M C 2. 14.*

Note:— The mean speed of the vessel at 126 revs. per min. = 11  
 The number of revolutions when going astern = 120 per minute  
 The slowest number of revolutions for manoeuvring = 65 per min.  
 Both donkey boilers are fitted with Meyer-Smith's Fuel System. One boiler is placed on the main deck at after end engine room and the other in a separate boiler room on upper aft; the latter boiler is fitted for burning coal as well as liquid fuel.

The amount of Entry Fee .. £ 3 : 0 : 0 When applied for, \_\_\_\_\_  
 Special \_\_\_\_\_  
 Donkey Boiler Fee .. £ \_\_\_\_\_  
 Travelling Expenses (if any) £ \_\_\_\_\_  
 When received, \_\_\_\_\_  
 13-2/31 14

*James Cunningham*  
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping

Committee's Minute FRI. MAR. -6. 1914

Assigned + L M C 2. 14  
 oil engines

Certificate (if appropriate) to be sent to Committee's Minute.

