

REPORT ON MACHINERY.

Port of Greenock

THUR, 2 JUN 1898

Received at London Office

Survey held at Port Glasgow

Date, first Survey 2nd Nov^r 1897 Last Survey 30th May 1898

Book Suppl^e
7 on the Steam Screw Steam Eng. "J. E. Fuller"

(Number of Visits)

Tons } Gross 399.
Net 46.

Master Alex^r Thompson Built at Port Glasgow By whom built David J. Dunlop & Coy. When built 1898.

Machines made at Port Glasgow By whom made David J. Dunlop & Coy. when made 1898.

Boilers made at do By whom made do when made 1898.

Registered Horse Power 206 Owners Table Bay Harbour Board Port belonging to Cape Town.

Horse Power as per Section 28. 206. Is Electric Light fitted yes.

ENGINES, &c.—Description of Engines Inverted Direct Acting Triple Expⁿ No. of Cylinders Six No. of Cranks 3 on each

Diameter of Cylinders 14, 22 & 36, two of each Length of Stroke 24 Revolutions per minute 145 Diameter of Screw shaft as per rule 1 1/2

Diameter of Tunnel shaft as per rule 6 1/2 Diameter of Crank shaft journals 6 3/4 Diameter of Crank pin 6 3/4 Size of Crank webs 10 x 4 1/4

Diameter of screws 8 1/2 Pitch of screws 9 1/2 No. of blades four State whether moveable no Total surface 35 sq in each.

No. of Feed pumps one on each Diameter of ditto 2 1/2 Stroke 12 Can one be overhauled while the other is at work yes

No. of Bilge pumps one on each Diameter of ditto 2 3/4 Stroke 12 Can one be overhauled while the other is at work yes

No. of Donkey Engines Two duplex Sizes of Pumps both 3 1/4 x 6 No. and size of Suctions connected to both Bilge and Donkey pumps

Engine Room & Stokholds four 2 1/4 In Holds, &c. One 2 1/4 & one 2 1/4 in tunnel.

No. of bilge injections Two sizes 4 1/4 Connected to condenser, or to circulating pumps is pumps a separate donkey suction fitted in Engine room & size 2 1/4

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 little below

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

Are all pipes carried through the bunkers sea suction for fire engine pump. How are they protected Wood casing.

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

Were stern tube, propeller, screw shaft, and all connections examined in dry dock on ship before launching. Is the screw shaft tunnel watertight yes.

Is it fitted with a watertight door yes worked from top platform.

BOILERS, &c.— (Letter for record S) Total Heating Surface of Boilers 4215 sq ft Is forced draft fitted no.

and Description of Boilers Two Cylindrical Multitubular Working Pressure 170 lbs Tested by hydraulic pressure to 340 lbs

Year of test 24.3.98 Can each boiler be worked separately yes Area of fire grate in each boiler 63 sq ft No. and Description of safety valves to boiler Two Direct Spring

Area of each valve 7.06 sq in Pressure to which they are adjusted 175 lbs Are they fitted with easing gear yes Smallest distance between boilers or uptakes and bunkers or woodwork 9 1/2 Mean diameter of boilers 15 1/2

Material of shell plates Steel Thickness 1 1/8 Description of riveting: circum. seams Lap double long. seams D B S triple

Diameter of rivet holes in long. seams 1 3/16 Pitch of rivets 8 3/8 & 4 3/16 Lap of plates or width of butt straps 17 7/8 Straps

Percentage of strength of longitudinal joint 87.4 Working pressure of shell by rules 170.5 lbs Size of manhole in shell 16 3/4 x 12 3/4

Plate 85.8 No. and Description of Furnaces in each boiler 3 Suspension Material Steel Outside diameter 47

Length of plain part top Thickness of plates crown 3 1/2 Description of longitudinal joint Welded No. of strengthening rings —

Working pressure of furnace by the rules 174 lbs Combustion chamber plates: Material Steel Thickness: Sides 19/32 Back 19/32 Top 19/32 Bottom 7/8

Material of stays to ditto: Sides 9 1/8 x 7 1/4 Back 9 1/8 x 7 1/4 Top 9 1/8 x 7 1/4 If stays are fitted with nuts or riveted heads nuts. Working pressure by rules 179 to 185

Material of stays Steel Diameter at smallest part 1 3/8 to 1 1/2 Area supported by each stay 4 1/2 to 9 1/2 Working pressure by rules 170 lbs End plates in steam space:

Material Steel Thickness 29/32 Pitch of stays 15 1/8 x 15 How are stays secured Double nuts Working pressure by rules 171 lbs Material of stays Steel

Diameter at smallest part 2 1/4 Area supported by each stay 22 1/2 sq in Working pressure by rules 172 lbs Material of Front plates at bottom Steel

Thickness 3/4 Material of Lower back plate Steel Thickness 3/4 Greatest pitch of stays 14 1/4 Working pressure of plate by rules 241 lbs

Diameter of tubes 3 1/2 Pitch of tubes 4 3/4 x 4 3/4 Material of tube plates Steel Thickness: Front 13/16 Back 13/16 Mean pitch of stays 11 1/8

Distance across wide water spaces 14 1/2 Working pressures by rules 204 lbs Girders to Chamber tops: Material Steel Depth and thickness of girder at centre 7 x 3/4 Length as per rule 28 Distance apart 7 1/4 Number and pitch of Stays in each Two 9 1/8

Working pressure by rules 190 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 rivets —

Pitch of rivets — Working pressure of shell by rules — Diameter of flue — Material of flue plates — Thickness —

Reinforced 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 *none fitted in this vessel, a small McAlister water boiler fitted for fire pump engine for salting purposes*

Made at _____ By whom made _____ When made _____ Where fixed _____

Working pressure tested by hydraulic pressure to _____ No. of Certificate _____ Fire grate area _____ Description of safety valves _____

No. of safety valves _____ Area of each _____ Pressure to which they are adjusted _____ If fitted with easing gear _____ If steam from main boiler _____

enter the donkey boiler *no* Diameter of donkey boiler _____ Length _____ Material of shell plates _____ Thickness _____

Description of riveting long. seams _____ Diameter of rivet holes _____ Whether punched or drilled _____ Pitch of rivets _____

Lap of plating _____ Per centage of strength of joint _____ Rivets _____ 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 _____

joint _____ Thickness of furnace crown plates _____ Stayed by _____ Working pressure of shell by rules _____

Working pressure of furnace by rules _____ Diameter of uptake _____ Thickness of uptake plates _____ Thickness of water tubes _____

SPARE GEAR. State the articles supplied:— *1 Crank shaft, 1 screw shaft, 2 bronze propellers, 1 pair crank pin bushes, 3 top & 3 bottom end bolts & nuts, 3 main bearing bolts & nuts, 6 coupling bolts, 1 air pump rod, 1 air pump valves, 2 feed & 2 bilge pump valves, 2 safety valve springs for main boilers, 1 set Ramsbottom rings for each sized piston.*

The foregoing is a correct description,

David J. Dunlop & Co. Manufacturer.
per J.A. Wade

Dates of Survey while building

During progress of work in shops—	1897	Jan 2, 5, 9, 11, 12, 15, 17, 20, 22, 26, 29	Dec 1, 3, 6, 8, 10, 14, 15, 21, 23, 28, 30	1898	Jan 13, 19, 21, 24, 26, 28	Feb 1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25, 27, 29
During erection on board vessel—		8, 10, 14, 17, 22, 24, 25, 28	March 3, 4, 7, 10, 14, 15, 16, 18, 21, 24, 26, 29, 31	April 2, 5, 7, 11, 13, 18, 19, 20, 22, 26, 30	May 1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25, 27, 29, 31	
Total No. of visits		10, 13, 17, 23, 24, 30	2/1			

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

*These Engines and Boilers were specially surveyed during construction workmanship good. Shafts examined when being turned found apparently sound. Main Steam pipes tested by hydraulic pressure to 340 lbs per square inch and found satisfactory. The Engines and Boilers are satisfactorily fitted in vessel and have been tested under full steam they are now in good order and safe working condition and are in my opinion eligible to be noted in Register Book. **LMC 5.98.***

Spare gear continued

20 tubes & 50 packing ferrules for surface Condenser, 12 tubes for main boiler, 150 fire bars, 1 set mid bearers, a quantity of bolts, nuts, & iron assorted.

It is submitted that this vessel is eligible for THE RECORD.

+ L.M.C. 5,98 Plus light.

JH
2/16/98

The amount of Entry Fee. £ 2 : " : " When applied for, _____

Special £ 30 : 6 : " 1st June 1898 B. 678

Donkey Boiler Fee £ " : " : " When received, _____

Travelling Expenses (if any) £ " : " : " _____

Committee's Minute **FRI 3 JUN 1898**

Assigned

+ L.M.C. 5,98

A.C. Cameron
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping
Greenock District

Lloyd's Register Foundation

Certificate (if required) to be sent to _____