

REPORT ON MACHINERY.

Port of Greenock

THURS. 19 OCT 1893

Received at London Office

No. in Survey held at Greenock & Pt. Glasgow Date, first Survey 14th June Last Survey 16th October 1893
Reg. Book. (Number of Visits 7)

Supplied on the Twin Screw Steamer "Jurua" Tons { Gross 417 Net 284
Master Hassenstein Built at Pt. Glasgow By whom built Murdoch & Murray When built 1893

Engines made at Greenock By whom made Wincaid & Coy (Lime?) when made 1893

Boilers made at Glasgow By whom made Lindsay Burnet & Coy when made 1893

Registered Horse Power 80 Owners J. R. d. Oliveira Port belonging to Para

Nom. Horse Power as per Section 28 83

ENGINES, &c.— Description of Engines Two sets Triple Expansion, S. D. E. No. of Cylinders Six
 Diameter of Cylinders 10" 16" 26" Length of Stroke 21" Revolutions per minute 140 Diameter of Screw shaft 5.15"
 Diameter of Tunnel shaft 5.35" Diameter of Crank shaft journals 5.5" Diameter of Crank pins 5.5" Size of Crank webs 6 3/4" x 4"
 Diameter of screws 6" 3" Pitch of screw 10" to 9.3" No. of blades 3 State whether moveable yes Total surface 130 feet
 No. of Feed pumps one Diameter of ditto 2 1/2" Stroke 10 1/2" Can one be overhauled while the other is at work yes
 No. of Bilge pumps two Diameter of ditto 2 1/2" Stroke 10 1/2" Can one be overhauled while the other is at work yes
 No. of Donkey Engines two Sizes of Pumps 3 x 6 1/2" & 3 x 6" No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room three 2" and one 2" in tunnel well, In Holds, &c. Eight 2"
 No. of bilge injections two sizes 2 3/4" Connected to condenser, or to circulating pump no Is a separate donkey suction fitted in Engine room & size yes 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 yes
 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 no
 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
 When were stern tube, propeller, screw shaft, and all connections examined in dry dock on slip 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) Total Heating Surface of Boilers 1578.5 sq feet
 No. and Description of Boilers see Glasgow report attached Working Pressure _____ Tested by hydraulic pressure to _____
 Date of test _____ Can each boiler be worked separately _____ Area of fire grate in each boiler 50 sq feet No. and Description of safety valves to _____
 each boiler _____ Area of each valve _____ Pressure to which they are adjusted _____ Are they fitted _____
 with casing gear _____ Smallest distance between boilers or uptakes and bunkers or woodwork _____ Mean diameter of boilers _____
 Length _____ Material of shell plates _____ Thickness _____ Description of riveting: circum. seams _____ long. seams _____
 Diameter of rivet holes in long. seams _____ Pitch of rivets _____ Lap of plates or width of butt straps _____
 Per centages of strength of longitudinal joint _____ Working pressure of shell by rules _____ Size of manhole in shell _____
 Size of compensating ring _____ No. and Description of Furnaces in each boiler _____ Material _____ Outside diameter _____
 Length of plain part _____ Thickness of plates _____ Description of longitudinal joint _____ No. of strengthening rings _____
 Working pressure of furnace by the rules _____ Combustion chamber plates: Material _____ Thickness: Sides _____ Back _____ Top _____ Bottom _____
 Pitch of stays to ditto: Sides _____ Back _____ Top _____ If stays are fitted with nuts or riveted heads _____ Working pressure by rules _____
 Material of stays _____ Diameter at smallest part _____ Area supported by each stay _____ Working pressure by rules _____ End plates in steam space: _____
 Material _____ Thickness _____ Pitch of stays _____ How are stays secured _____ Working pressure by rules _____ Material of Front plates at bottom _____
 Diameter at smallest part _____ Area supported by each stay _____ Working pressure by rules _____ Material of Front plates at bottom _____
 Thickness _____ Material of Lower back plate _____ Thickness _____ Greatest pitch of stays _____ Working pressure of plate by rules _____
 Diameter of tubes _____ Pitch of tubes _____ Material of tube plates _____ Thickness: Front _____ Back _____ Mean pitch of stays _____
 Pitch across wide water spaces _____ Working pressures by rules _____ Girders to Chamber tops: Material _____ Depth and _____
 thickness of girder at centre _____ Length as per rule _____ Distance apart _____ Number and pitch of Stays in each _____
 Working pressure by rules _____ 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 _____
 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 casing gear _____



DONKEY BOILER— Description *No Donkey Boiler in this kind.*

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 boilers _____

enter the donkey boiler _____ 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 _____

Lay 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:— *2 top & 2 bottom end bolts & nuts, 2 main bearings, 2 sets Coupling bolts, 2 feed check valves, 1 set of feed & bilge pump valves, 4 sets air pump valves, 2 propeller shafts, 2 stern bushes, 2 propellers & 6 blades, 1 pair crank pin bushes, a safety valve spring, springs for feed pump valves.*

The foregoing is a correct description,
Kuicaia & Co. L^d Manufacturers *Peak*

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

*These Engines have been specially surveyed during construction workmanship good, intermediate and screw shafts examined when being turned and found apparently sound. Main steam pipes tested by hydraulic pressure to 350 lbs per sq. inch and found satisfactory. The Engines & Main Boilers are satisfactorily fitted on board, and have been tested on full steam. They are now in good order and safe working condition, and are in my opinion eligible to be noted in Register Book. **L.M.C. 10, 93.***

Spare gear Continued

Valves and Cylinder escape valves, 150 fire bars & 6 tubes for Main Boiler, 6 tubes for surface Condenser, 1 Crank shaft,

It is submitted that
 this vessel is eligible for
THE RECORD + L.M.C. 10, 93.

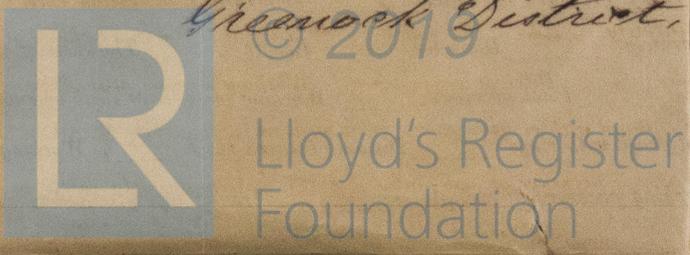
Handwritten signature and date:
19/10/93

Certificate (if required) to be sent to *Greenock Office*

The amount of Entry Fee. . . £ 1 : : : When applied for,
 Special £ 12 : 9 : : : *18/10/93*
 Donkey Boiler Fee £ : : : : : When received,
 Travelling Expenses (if any) £ : : : : : *18/10/93*

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

Committee's Minute **FRI 20 OCT 1893**
 Assigned *+ L.M.C. 10, 93.*



The Surveyors are requested not to write or sign before the space for Committee's Minute.