

# REPORT ON MACHINERY.

26786 Iron

No. 4808

No. in Survey held at Reg. Book.

Date, first Survey March 26<sup>th</sup> 1880 Last Survey May 28<sup>th</sup> 1880

on the Iron S.S. "Redland"

Tons 115.8

Master J. G. Morgan

Built at Campbeltown

When built 1879/80

Engines made at Greenock

By whom made Kincaid, Donald & Co. when made 1880

Boilers made at Ladyburn, Greenock

By whom made Watson & Co. when made 1880

Registered Horse Power 30

Owners M. Whitwell & Son

Port belonging to Bristol

## ENGINES, &c.—

Description of Engines Compound, Inverted, Direct-acting, Surface-condensing  
 Diameter of Cylinders 13" & 23 1/2" Length of Stroke 18" No. of Rev. per minute 110 Point of Cut off, High Pressure 1/2 stroke Low Pressure 1/2 stroke  
 Diameter of Screw shaft 4 1/4" Diameter of Tunnel shaft 4 1/4" Diameter of Crank shaft journals 4 1/4" Diameter of Crank pin 4 1/4" size of Crank webs 5 1/2" x 9 1/4"  
 Diameter of screw 4" 2" Pitch of screw 9" 6" No. of blades 3 state whether moveable no total surface 12 sq. ft.  
 No. of Feed pumps 1 diameter of ditto 2 3/4" Stroke 9" Can one be overhauled while the other is at work  
 No. of Bilge pumps 1 diameter of ditto 2 3/4" Stroke 9" Can one be overhauled while the other is at work  
 Where do they pump from Bilge pumps from bilges and peak tank; feed from hotwell.  
 No. of Donkey Engines One Size of Pumps 2 1/4" x 5" Where do they pump from Sea, bilges, hotwell & tank.

Are all the bilge suction pipes fitted with roses Yes Are the roses always accessible except under cargo. Are the sluices on Engine room bulkheads always accessible Yes  
 No. of bilge injections 1 and sizes 2" Are they connected to condenser, or to circulating pump Circ. p.  
 How are the pumps worked By levers from main cross heads.  
 Are all connections with the sea direct on the skin of the ship Yes Are they Valves or Cocks Values & cocks.  
 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 accessible at all times Yes  
 Are the pipes, cocks, and valves arranged so as to prevent an unintentional connection between the sea and the bilges Yes  
 When were stern tube, propeller, screw shaft, and all connections examined in dry dock New ship, on Watson's slipway when they were fitted, May 1880  
 Is the screw shaft tunnel watertight no tunnel and fitted with a sluice door worked from

## BOILERS, &c.—

Number of Boilers One Description Round, horizontal, multitubular  
 Working Pressure 65 lbs Tested by hydraulic pressure to 140 lbs Date of test 24<sup>th</sup> April, 1880  
 Description of ~~superheating apparatus~~ or steam chest Vertical steam dome.  
 Can each boiler be worked separately Can the superheater be shut off and the boiler worked separately  
 No. of square feet of fire grate surface in boiler 24 Description of safety valves Direct-spring, (non-male)  
 No. to each boiler Two area of each valve 9.6 sq. in. Are they fitted with easing gear Yes  
 No. of safety valves to superheater area of each valve are they fitted with easing gear  
 Smallest distance between boilers and bunkers or woodwork 4" space between composition & bunkers lagged with wood &c.  
 Diameter of boilers 8' 0" Length of boilers 4' 9" description of riveting of shell long. seams Double lap circum. seams single lap.  
 Thickness of shell plates 9/16" diameter of rivet holes 1/8" whether punched or drilled Punched pitch of rivets 3"  
 Lap of plating 6" per centage of strength of longitudinal joint 40 working pressure of shell by rules 67 lbs  
 Size of manholes in shell 16" x 12" size of compensating rings Angle iron ring 3" x 3" x 1/2"  
 No. of Furnaces in boiler 2 outside diameter 2' 5" length, top 5' 9" bottom 4' 4"  
 Thickness of plates 3/8" description of joint Double strap if rings are fitted Angle iron at bottom greatest length between rings 5' 6"  
 Working pressure of furnace by the rules 49 lbs  
 Combustion chamber plating, thickness, sides 7/16" back 7/16" top 7/16" (curved)  
 Pitch of stays to ditto sides 8" x 8" back 8" x 8" top curved.  
 If stays are fitted with nuts or riveted heads Screwed & riveted working pressure of plating by rules 69 lbs  
 Diameter of stays at smallest part 1 1/8" working pressure of ditto by rules 92 lbs  
 End plates in steam space, thickness 5/8" pitch of stays to ditto 14" x 14" how stays are secured Double nuts  
 Working pressure by rules 41 lbs diameter of stays at smallest part 1 3/4" working pressure by rules 43 lbs  
 Front plates at bottom, thickness 5/8" Back plates, thickness 5/8" greatest pitch of stays 9 1/2" working pressure by rules 111 lbs



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Diameter of tubes 3" pitch of tubes 4 1/4" x 4 1/4" thickness of tube plates, front 5/8" back 5/8"  
 How stayed Tubes pitch of stays 12 3/4" x 12 3/4" width of water spaces 5"  
 Diameter of ~~Superheater~~ or Steam chest 3"0" length 3'9"  
 Thickness of plates 3/8" description of longitudinal joint Single lap diameter of rivet holes 3/4" pitch of rivets 2 1/4"  
 Working pressure of shell by rules 83 lbs Diameter of flue None thickness of plates  
 If stiffened with rings distance between rings Working pressure by rules  
 End plates of ~~superheater~~ steam chest; thickness 7/16" How stayed Two 1 3/4" vertical stays  
~~Superheater~~ or steam chest; how connected to boiler Strong flange riveted.

**DONKEY BOILER—** Description No Donkey boiler  
 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  
 If fitted with easing gear If steam from main boilers can enter the donkey boiler  
 Diameter of donkey boiler length description of riveting  
 thickness of shell plates diameter of rivet holes whether punched or drilled  
 pitch of rivets lap of plating per centage of strength of joint  
 thickness of crown plates stayed by  
 Diameter of furnace, top bottom length of furnace  
 thickness of plates description of 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 plates thickness of water tubes

The foregoing is a correct description,  
 J Mcneil Donald & Co Manufacturers.

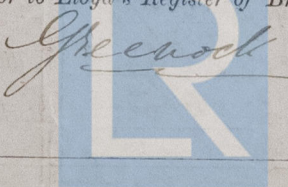
**General Remarks** (State quality of workmanship, opinions as to class, &c. Workmanship and materials good.  
 The engines and boilers are in good and efficient condition, the pumping arrangements have been carried out in accordance with plans submitted and approved by the Committee in letter of April 14<sup>th</sup> 1880, and the vessel is in my opinion, eligible to be classed "Lloyd's M.C." and noted 6.80. ? last run 20/5/80

It is submitted that this vessel is eligible to have the notification of Lloyd's M.C. 6.80 recorded in the Register Book J.M. 10/6/80

The amount of Entry Fee £ 0 : 0 : 0 received by me,  
 Special £ 5 : 0 : 0  
 Certificate (if required) £ 0 : 0 : 0  
 To be sent as per margin.  
 (Travelling Expenses, if any)

Committee's Minute 21<sup>st</sup> Dec. 1880

Alfred H. Alchin  
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.



Lloyd's Register Foundation