

# REPORT ON MACHINERY

No. 33525

Port of Newcastle

THUR. AUG 27 1896

No. in Survey held at South Shields Date, first Survey 31<sup>st</sup> March Last Survey 11<sup>th</sup> June 1896  
 Reg. Book. SS "Guardian" (Number of Visits 8)  
 on the SS "Guardian" Tonnage { Gross 380.93 Net 161.93  
 Master A. Greenclade Built at Inverkeithing By whom built Cumming & Ellis When built 1896  
 Engines made at Aberdeen By whom made Clyne Mitchell & Co when made 1896  
 Boilers made at South Shields By whom made J. I. Eltringham & Co when made 1896  
 Registered Horse Power 64 Owners D. W. Bain & Co Port belonging to Penzance  
 Nom. Horse Power as per Section 28 ☒

ENGINES, &c.— Description of Engines No. of Cylinders  
 Diameter of Cylinders Length of Stroke Revolutions per minute Diameter of Screw shaft as per rule.  
 Diameter of Tunnel shaft as per rule. Diameter of Crank shaft journals Diameter of Crank pin Size of Crank webs as fitted.  
 Diameter of screw Pitch of screw No. of blades State whether moveable Total surface  
 No. of Feed pumps Diameter of ditto Stroke Can one be overhauled while the other is at work  
 No. of Bilge pumps Diameter of ditto Stroke Can one be overhauled while the other is at work  
 No. of Donkey Engines Sizes of Pumps No. and size of Suctions connected to both Bilge and Donkey pumps  
 In Engine Room In Holds, &c.  
 No. of bilge injections sizes Connected to condenser, or to circulating pump Is a separate donkey suction fitted in Engine room & size  
 Are all the bilge suction pipes fitted with roses Are the roses in Engine room always accessible Are the sluices on Engine room bulkheads always accessible  
 Are all connections with the sea direct on the skin of the ship Are they Valves or Cocks  
 Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates Are the discharge pipes above or below the deep water line  
 Are they each fitted with a discharge valve always accessible on the plating of the vessel Are the blow off cocks fitted with a spigot and brass covering plate  
 What pipes are carried through the bunkers How are they protected  
 Are all pipes, cocks, valves, and pumps in connection with the machinery and all boiler mountings accessible at all times  
 Are the bilge suction pipes, cocks, and valves arranged so as to prevent any communication between the sea and the bilges  
 When were stern tube, propeller, screw shaft, and all connections examined in dry dock Is the screw shaft tunnel watertight  
 Is it fitted with a watertight door worked from

OILERS, &c.— (Letter for record S) Total Heating Surface of Boilers 1268 <sup>#</sup>  
 No. and Description of Boilers One Multi-Single ended Working Pressure 125<sup>ths</sup> Tested by hydraulic pressure to 250<sup>ths</sup>  
 Date of test 14.6.96 Can each boiler be worked separately ☒ Area of fire grate in each boiler 31<sup>ft</sup> 5<sup>in</sup> No. and Description of safety valves to  
 each boiler 2 Spring Area of each valve 7.06<sup>sq</sup> in Pressure to which they are adjusted 125 Are they fitted  
 with easing gear Yes Smallest distance between boilers or uptakes and bunkers or woodwork 5'-0" Mean diameter of boilers 11'-11<sup>in</sup> 7<sup>in</sup> 6  
 Length 10'-0" Material of shell plates Steel Thickness 1<sup>in</sup> 5<sup>in</sup> 16 Description of riveting: circum. seams lap d. 7 long. seams lap 4 rows  
 Diameter of rivet holes in long. seams 1<sup>in</sup> 3<sup>in</sup> 8 Pitch of rivets 4<sup>in</sup> 3<sup>in</sup> 4 Lap of plates on width of butt straps 10<sup>in</sup> 4  
 Per centages of strength of longitudinal joint rivets 76 Working pressure of shell by rules 126<sup>ths</sup> Size of manhole in shell 16<sup>in</sup> x 12<sup>in</sup>  
 Size of compensating ring 4<sup>in</sup> 1<sup>in</sup> 5<sup>in</sup> 16 No. and Description of Furnaces in each boiler 3 plain Material steel Outside diameter 35<sup>in</sup> 4  
 Length of plain part top 6'-4" Thickness of plates crown 7<sup>in</sup> 16 Description of longitudinal joint lap single riveted No. of strengthening rings none  
 bottom 8'-9" bottom 7<sup>in</sup> 16 Working pressure of furnace by the rules 125<sup>ths</sup> Combustion chamber plates: Material steel Thickness: Sides 3<sup>in</sup> 2 Back 3<sup>in</sup> 2 Top 3<sup>in</sup> 2 Bottom 1<sup>in</sup> 16  
 Pitch of stays to ditto: Sides 9<sup>in</sup> 8<sup>in</sup> x 9<sup>in</sup> 8<sup>in</sup> Back 9<sup>in</sup> 8<sup>in</sup> x 9<sup>in</sup> 8<sup>in</sup> Top palms If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 125<sup>ths</sup>  
 Material of stays steel Diameter at smallest part 1<sup>in</sup> 5<sup>in</sup> 32 Area supported by each stay 95.5<sup>sq</sup> in Working pressure by rules 134<sup>ths</sup> End plates in steam space:  
 Material steel Thickness 5<sup>in</sup> 3<sup>in</sup> 64 Pitch of stays 17<sup>in</sup> 3<sup>in</sup> x 15<sup>in</sup> How are stays secured DN & W Working pressure by rules 125<sup>ths</sup> Material of stays steel  
 Diameter at smallest part 2<sup>in</sup> 7<sup>in</sup> 16 Area supported by each stay 232.75<sup>sq</sup> in Working pressure by rules 129<sup>ths</sup> Material of Front plates at bottom steel  
 Thickness 2<sup>in</sup> 7<sup>in</sup> 32 Material of Lower back plate steel Thickness 2<sup>in</sup> 5<sup>in</sup> 32 Greatest pitch of stays 13<sup>in</sup> Working pressure of plate by rules 125<sup>ths</sup>  
 Diameter of tubes 3<sup>in</sup> 4 Pitch of tubes 4<sup>in</sup> 2<sup>in</sup> x 4<sup>in</sup> 3<sup>in</sup> 8 Material of tube plates steel Thickness: Front 2<sup>in</sup> 7<sup>in</sup> 32 Back 1<sup>in</sup> 3<sup>in</sup> 16 Mean pitch of stays 10<sup>in</sup>  
 Pitch across wide water spaces 14<sup>in</sup> 4 Working pressures by rules 125<sup>ths</sup> Girders to Chamber tops: none 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 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  
 Pitch of rivets Working pressure of shell by rules Diameter of flue Material of flue plates Thickness  
 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



**DONKEY BOILER—** Description

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 can  
 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 \_\_\_\_\_  
 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 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 uptake plates \_\_\_\_\_ Thickness of water tubes \_\_\_\_\_

**SPARE GEAR.** State the articles supplied:—

The foregoing is a correct description,

*W. C. Thompson* Manufacturer of Main boiler

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

*This Main boiler has been*

Dates of  
Survey while  
building  
During progress of  
work in shops - -  
During erection on  
board vessel - -  
Total No. of visits

*This Main boiler has been constructed under Special Survey  
the workmanship being sound & good throughout.*

Certificate (if required) to be sent to \_\_\_\_\_

The amount of Entry Fee. . . . .	£	:	:	When applied for,
Special . . . . .	£	4	:	3. 7. 1896
Donkey Boiler Fee . . . . .	£	:	:	When received,
Travelling Expenses (if any) £	:	:	:	13. 8. 1896

*R. Haicy*  
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute

FRI. AUG 28 1896

Assigned \_\_\_\_\_

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



© 2019

Lloyd's Register  
Foundation