

# REPORT ON MACHINERY.

6063

No. 6063 (Received at London Office Rec'd 9th April 1883)  
 No. in Survey held at Glasgow Date, first Survey 14<sup>th</sup> Oct-82 Last Survey 5<sup>th</sup> April 1883  
 Reg. Book. 785, on the Genl Steam Vessel "South Western" (Number of Visits 16) 460  
Tons 223  
 Master \_\_\_\_\_ Built at Port Glasgow When built 1870  
 Engines made at Port Glasgow By whom made Waclwood & Gordon when made " "  
 Boilers made at Glasgow By whom made Rees & Anderson & Co when made 1883  
 Registered Horse Power 120 Owners Andersons Shipping Co Port belonging to Andersons

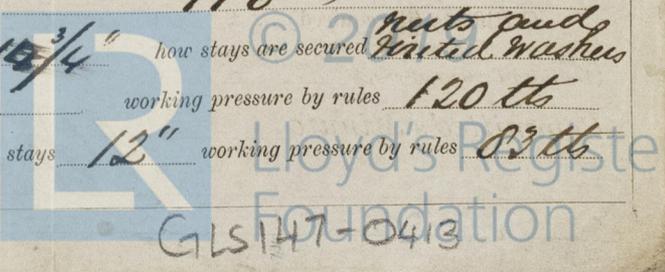
**ENGINES, &c.—**

Description of Engines Compound Inverted Surface Condensing  
 Diameter of Cylinders 28 3/8" & 50 1/2" Length of Stroke 30" No. of Rev. per minute 40 Point of Cut off, High Pressure 22" Low Pressure 22"  
 Diameter of Screw shaft 8 1/4" Diameter of Tunnel shaft 8" Diameter of Crank shaft journals 8 3/4" Diameter of Crank pin 8 3/4" size of Crank webs 10 1/2" x 6 3/4"  
 Diameter of screw 10" x 10" Pitch of screw 18" x 6" No. of blades 4 state whether moveable No total surface 4.3 sq ft  
 No. of Feed pumps Two diameter of ditto 3 1/4" Stroke 15" Can one be overhauled while the other is at work Yes  
 No. of Bilge pumps Two diameter of ditto 3 1/4" Stroke 15" Can one be overhauled while the other is at work Yes  
 Where do they pump from Engine Room, Storehold and all Compartments  
 No. of Donkey Engines One Size of Pumps 6" x 10" Where do they pump from Sea, Fore Peak, Engine Room, Storehold and all Compartments  
 Are all the bilge suction pipes fitted with roses Yes Are the roses always accessible Yes Are the sluices on Engine room bulkheads always accessible Yes  
 No. of bilge injections one and sizes 3" Are they connected to condenser, or to circulating pump Circulating  
 How are the pumps worked By Revers Attached to Crossheads  
 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 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 February 12<sup>th</sup> 1883  
 Is the screw shaft tunnel watertight --- and fitted with a sluice door Yes worked from the top platform

**BOILERS, &c.—**

No Tunnel. a water tight door is fitted on after Engine Room Bulkhead  
 Number of Boilers Two Description Cylindrical & Multitubular (Steel)  
 Working Pressure 40 lb Tested by hydraulic pressure to 140 lb Date of test Decr 14<sup>th</sup> 1882  
 Description of superheating apparatus or steam chest Horizontal Steam Heaters  
 Can each boiler be worked separately Yes Can the superheater be shut off and the boiler worked separately ---  
 No. of square feet of fire grate surface in each boiler 35 sq ft Description of safety valves Spiral Spring  
 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 10" inches  
 Diameter of boilers 10' 8" Length of boilers 10' 0" description of riveting of shell long. seams Double Butt circum. seams Double Lap  
 Thickness of shell plates 5/8" diameter of rivet holes 15/16" whether punched or drilled drilled pitch of rivets 4"  
 Lap of plating 10 1/2 strips per centage of strength of longitudinal joint 46% working pressure of shell by rules 92 lb  
 Size of manholes in shell 13" x 18" size of compensating rings Flat Ring 4 1/2" x 3/4"  
 No. of Furnaces in each boiler Two outside diameter 3' 4" length, top 16' 0" bottom 8' 9"  
 Thickness of plates 1/2" description of joint Double Butt if rings are fitted at bottom greatest length between rings ---  
 Working pressure of furnace by the rules 93 lb  
 Combustion chamber plating, thickness, sides 1/2" back 1/2" top 1/2"  
 Pitch of stays to ditto, sides 9 1/2" x 9 1/4" back 9 1/2" x 9 1/4" top 9 1/2" x 9"  
 If stays are fitted with nuts or riveted heads Nuts working pressure of plating by rules 85 lb  
 Diameter of stays at smallest part 1 1/4" steel working pressure of ditto by rules 110 "  
 End plates in steam space, thickness 5/8" pitch of stays to ditto 14 3/4" x 10 3/4" how stays are secured Nuts and Riveted Washers  
 Working pressure by rules 72 lb diameter of stays at smallest part 2 3/8" working pressure by rules 120 lb  
 Front plates at bottom, thickness 5/8" Back plates, thickness 5/8" greatest pitch of stays 12" working pressure by rules 82 lb

Form No. 8-21/82 1000. Report is also sent on the Hull of the Ship



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Diameter of tubes  $3''$  ext pitch of tubes  $4\frac{1}{4}'' \times 4\frac{1}{4}''$  thickness of tube plates, front  $\frac{5}{8}''$  back  $\frac{5}{8}''$   
 How stayed *Sube Stay* pitch of stays  $12\frac{3}{4}'' \times 8\frac{1}{2}''$  width of water spaces  $6''$   
 Diameter of Superheater or Steam chest  $4' 0''$  length  $6' 0''$   
 Thickness of plates  $\frac{1}{2}''$  description of longitudinal joint *double lap* diameter of rivet holes  $\frac{7}{8}''$  pitch of rivets  $3\frac{1}{4}''$   
 Working pressure of shell by rules  $118$  lbs Diameter of flue *---* thickness of plates *---*  
 If stiffened with rings *---* distance between rings *---* Working pressure by rules *---*  
 End plates of superheater, or steam chest; thickness  $9/16''$  How stayed *Five round stays 1\frac{1}{4}'' effective dia*  
 Superheater or steam chest; how connected to boiler *By Stop Valves and Copper Pipes*

DONKEY BOILER— Description *Circular Vertical Two Water Tubes in Shell*  
 Made at *Port Glasgow* By whom made *Blackwood & Co Glasgow* when made  $1880$   
 Where fixed *Stonehold* working pressure  $50$  lbs Tested by hydraulic pressure to  $100$  lbs No. of Certificate  $16$   
 Fire grate area  $9$  sq ft. Description of safety valves *Direct loaded* No. of safety valves  $one$  area of each  $7$  sq in  
 If fitted with easing gear *Yes* If steam from main boilers can enter the donkey boiler *No*  
 Diameter of donkey boiler  $4' 3''$  length  $9' 0''$  description of riveting *Rowl. doubl. Cir single*  
 thickness of shell plates  $\frac{3}{8}''$  diameter of rivet holes  $\frac{3}{4}''$  whether punched or drilled *punched*  
 pitch of rivets  $2\frac{3}{4}''$  lap of plating  $4''$  per centage of strength of joint  $72\%$   
 thickness of crown plates  $\frac{7}{16}''$  stayed by *Four bar stays 1\frac{1}{2}'' dia effective*  
 Diameter of furnace, top  $3' 7''$  bottom  $3' 9''$  length of furnace  $4' 0''$   
 thickness of plates  $\frac{3}{8}''$  description of joint *Rowl. single riveted*  
 thickness of furnace crown plates  $\frac{7}{16}''$  stayed by *Four bar stays 1\frac{1}{2}'' dia effective*  
 Working pressure of shell by rules  $81$  lbs working pressure of furnace by rules  $67$  lbs  
 diameter of uptake  $12''$  thickness of plates  $\frac{7}{16}''$  thickness of water tubes  $\frac{3}{8}''$

The foregoing is a correct description,  
*Dees Anderson & Co* Manufacturer. of Main Boilers

*Disputed matter  
 that this vessel is eligible  
 to have the register  
 Dec 4. 83  
 J.M.G. 9/4/83*

General Remarks (State quality of workmanship, opinions as to class, &c. *New Main and Donkey Boilers supplied and fitted on board. - Vessel placed in Graving Dock all sea-cocks removed from flat of ship's bottom and fitted in conformity with the rules. - Propeller and shaft examined, outer bush lined up and propeller refixed in place satisfactorily. High and Low pressure Cylinders bored out and new pistons fitted found two porous parts in Low pressure Cylinder barrel about 3 inches and 1\frac{1}{4} inches dia respectively. these have been drilled out and two cast-iron screw plugs efficiently fitted. Piston Rods turned up and glands rebushed. Crank and Sunnel shafting examined and found satisfactory. Surface Condenser examined. Tubes drawn and cleaned and replaced with new packing. Slide Valves, Air, Circulating Feed and Bilge Pumps with their rods, Valves and Connections overhauled and put in good working order.*

*The above Engines and Boilers are now in good order and safe working condition and eligible in my opinion to be noted in the Society's Register-Book* *Lloyds N.C. 10.13.4.83.*

The amount of Entry Fee £ 1: 0: 0 received by me,  
 Special £ 4: 4: 0  
 2% new Boilers 8: 8: 0  
 Certificate (£ required) £ 0: 5: 0 6/4/1883  
 To be sent as per margin.

Committee's Minute

*J.M.G. 3/4/83 - N 1303*

*J.M.G. Gregor*  
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

*Clyde District*  
 Lloyd's Register Foundation