

# REPORT ON MACHINERY.

No. 26453

Port of Glasgow

Received at London Office. TUES. 14 APL 1908

No. in Survey held at Glasgow Date, first Survey 1st May 1907 Last Survey 11th Sept 1907  
 Reg. Book. on the Alpha S R Co S/S No 184 (Number of Visits 19)  
 Master Troon Built at Troon By whom built Alpha S R Co When built 1908  
 Engines made at Troon By whom made Alpha S R Co when made 1908  
 Boilers made at Glasgow By whom made Wm Dewar & Co Ltd when made 1907  
 Registered Horse Power \_\_\_\_\_ Owners \_\_\_\_\_ Port belonging to \_\_\_\_\_  
 Nom. Horse Power as per Section 28 \_\_\_\_\_ Is Refrigerating Machinery fitted for cargo purposes \_\_\_\_\_ Is Electric Light fitted \_\_\_\_\_

## ENGINES, &c.—Description of Engines

No. of Cylinders \_\_\_\_\_ No. of Cranks \_\_\_\_\_  
 Dia. of Cylinders \_\_\_\_\_ Length of Stroke \_\_\_\_\_ Revs. per minute \_\_\_\_\_ Dia. of Screw shaft \_\_\_\_\_ Material of screw shaft \_\_\_\_\_  
 Is the screw shaft fitted with a continuous liner the whole length of the stern tube \_\_\_\_\_ Is the after end of the liner made water tight in the propeller boss \_\_\_\_\_  
 If the liner is in more than one length are the joints burned \_\_\_\_\_ If the liner does not fit tightly at the part between the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive \_\_\_\_\_  
 If two liners are fitted, is the shaft lapped or protected between the liners \_\_\_\_\_ Length of stern bush \_\_\_\_\_  
 Dia. of Tunnel shaft \_\_\_\_\_ Dia. of Crank shaft journals \_\_\_\_\_ Dia. of Crank pin \_\_\_\_\_ Size of Crank webs \_\_\_\_\_ Dia. of thrust shaft under collars \_\_\_\_\_  
 Dia. 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 \_\_\_\_\_  
 Dates of examination of completion of fitting of Sea Connections \_\_\_\_\_ of Stern Tube \_\_\_\_\_ Screw shaft and Propeller \_\_\_\_\_  
 Is the Screw Shaft Tunnel watertight \_\_\_\_\_ Is it fitted with a watertight door \_\_\_\_\_ worked from \_\_\_\_\_

## BOILERS, &c.—(Letter for record \_\_\_\_\_)

Manufacturers of Steel Steel Co. of Scotland & Clydebridge

Total Heating Surface of Boilers 5320 Is Forced Draft fitted \_\_\_\_\_ No. and Description of Boilers 2 Single Ended  
 Working Pressure 170 Tested by hydraulic pressure to 340 Date of test 11-9-07 No. of Certificate 9141  
 Can each boiler be worked separately \_\_\_\_\_ Area of fire grate in each boiler 80 No. and Description of Safety Valves to each boiler \_\_\_\_\_  
 Area of each valve \_\_\_\_\_ Pressure to which they are adjusted \_\_\_\_\_ Are they fitted with easing gear \_\_\_\_\_  
 Smallest distance between boilers or uptakes and bunkers or woodwork \_\_\_\_\_ Mean dia. of boilers 16.7 7/32 Length 11-6 Material of shell plates S  
 Thickness 1 7/32 Range of tensile strength 28-32 Are the shell plates welded or flanged \_\_\_\_\_ Descrip. of riveting: cir. seams DR  
 long. seams TRDBS Diameter of rivet holes in long. seams 1 1/4 Pitch of rivets 10 Lap of plates or width of butt straps 1-8 1/4  
 Per centages of strength of longitudinal joint \_\_\_\_\_ rivets 90 7/8 Working pressure of shell by rules 173 Size of manhole in shell 16x12  
 Size of compensating ring McNeil No. and Description of Furnaces in each boiler 4 Morrison Material S Outside diameter 3.8 1/2  
 Length of plain part \_\_\_\_\_ Thickness of plates \_\_\_\_\_ Description of longitudinal joint weld No. of strengthening rings \_\_\_\_\_  
 Working pressure of furnace by the rules 171 Combustion chamber plates: Material S Thickness: Sides 5/8 Back 5/8 Top 5/8 Bottom 7/8  
 Pitch of stays to ditto: Sides 8x9 3/8 Back 8 1/2 x 8 7/8 Top 7 1/2 x 9 1/2 If stays are fitted with nuts or riveted heads Yuh Working pressure by rules 180  
 Material of stays S Diameter at smallest part 1 7/8 Area supported by each stay 75 Working pressure by rules 186 End plates in steam space: \_\_\_\_\_  
 Material S Thickness 1 3/32 Pitch of stays 1 7/4 x 1 3/8 How are stays secured DN Working pressure by rules 176 Material of stays S  
 Diameter at smallest part 4.26 Area supported by each stay 305 Working pressure by rules 178 Material of Front plates at bottom S  
 Thickness 2 1/32 Material of Lower back plate S Thickness 2 1/32 Greatest pitch of stays 12 5/8 Working pressure of plate by rules \_\_\_\_\_  
 Diameter of tubes 3 3/4 Pitch of tubes 6 Material of tube plates S Thickness: Front 1 1/32 Back 2 1/32 Mean pitch of stays 12 1/2  
 Pitch across wide water spaces 14 3/4 Working pressures by rules 191 Girders to Chamber tops: Material S Depth and thickness of girder at centre 9 1/2 x 7 1/2 (2) Length as per rule 34.5 Distance apart 9 1/2 Number and pitch of stays in each 3 at 7 7/8  
 Working pressure by rules 183 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 holes \_\_\_\_\_  
 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 easing gear \_\_\_\_\_

Lloyd's Register Foundation  
w948-8945

**VERTICAL DONKEY BOILER—** Manufacturers of Steel

No. \_\_\_\_\_ Description \_\_\_\_\_

Made at \_\_\_\_\_ By whom made \_\_\_\_\_ When made \_\_\_\_\_ Where fixed \_\_\_\_\_

Working pressure tested by hydraulic pressure to \_\_\_\_\_ Date of test \_\_\_\_\_ No. of Certificate \_\_\_\_\_ Fire grate area \_\_\_\_\_ Description of Safety \_\_\_\_\_

Valves \_\_\_\_\_ No. of Safety Valves \_\_\_\_\_ Area of each \_\_\_\_\_ Pressure to which they are adjusted \_\_\_\_\_ Date of adjustment \_\_\_\_\_

If fitted with easing gear \_\_\_\_\_ If steam from main boilers can enter the donkey boiler \_\_\_\_\_ Dia. of donkey boiler \_\_\_\_\_ Length \_\_\_\_\_

Material of shell plates \_\_\_\_\_ Thickness \_\_\_\_\_ Range of tensile strength \_\_\_\_\_ Descrip. of riveting long. seams \_\_\_\_\_

Dia. of rivet holes \_\_\_\_\_ Whether punched or drilled \_\_\_\_\_ Pitch of rivets \_\_\_\_\_ Lap of plating \_\_\_\_\_ Per centage of strength of joint \_\_\_\_\_ Rivets \_\_\_\_\_ Plates \_\_\_\_\_

Working pressure of shell by rules \_\_\_\_\_ 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 \_\_\_\_\_

Working pressure of furnace by rules \_\_\_\_\_ Thickness of furnace crown plates \_\_\_\_\_ Stayed by \_\_\_\_\_

Diameter of uptake \_\_\_\_\_ Thickness of uptake plates \_\_\_\_\_ Thickness of water tubes \_\_\_\_\_ Dates of survey \_\_\_\_\_

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

The foregoing is a correct description,  
 or **DUMSMUIR & JACKSON Limited**  
*James Fletcher* Manufacturer.

Dates of Survey while building { During progress of work in shops - - } 1907. May 1 & 27. June 7. 11. 15. 19. July 23. 25. Aug. 1. 5. 9. 10. 14. 26. Sep. 3. 5. 9. 11.  
 { During erection on board vessel - - }  
 Total No. of visits 19.

Is the approved plan of main boiler forwarded herewith *Yes*

Dates of Examination of principal parts—Cylinders \_\_\_\_\_ Slides \_\_\_\_\_ Covers \_\_\_\_\_ Pistons \_\_\_\_\_ Rods \_\_\_\_\_

Connecting rods \_\_\_\_\_ Crank shaft \_\_\_\_\_ Thrust shaft \_\_\_\_\_ Tunnel shafts \_\_\_\_\_ Screw shaft \_\_\_\_\_ Propeller \_\_\_\_\_

Stern tube \_\_\_\_\_ Steam pipes tested \_\_\_\_\_ Engine and boiler seatings \_\_\_\_\_ Engines holding down bolts \_\_\_\_\_

Completion of pumping arrangements \_\_\_\_\_ Boilers fixed \_\_\_\_\_ Engines tried under steam \_\_\_\_\_

Main boiler safety valves adjusted \_\_\_\_\_ Thickness of adjusting washers \_\_\_\_\_

Material of Crank shaft \_\_\_\_\_ Identification Mark on Do. \_\_\_\_\_ Material of Thrust shaft \_\_\_\_\_ Identification Mark on Do. \_\_\_\_\_

Material of Tunnel shafts \_\_\_\_\_ Identification Marks on Do. \_\_\_\_\_ Material of Screw shafts \_\_\_\_\_ Identification Marks on Do. \_\_\_\_\_

Material of Steam Pipes \_\_\_\_\_ Test pressure \_\_\_\_\_

**General Remarks** (State quality of workmanship, opinions as to class, &c. *These Boilers have been fully made Special Survey in accordance with the approved plan & the workmanship material are of good quality. These Boilers are to be fitted on board at Troon.*)

Certificate (if required) to be sent to \_\_\_\_\_  
 (The Surveyors are requested not to write on or below the space for Committee's Minute.)

The amount of Entry Fee. . . . .	£	When applied for, . . . . .	19
Special . . . . .	£	When received, . . . . .	19
Donkey Boiler Fee . . . . .	£		
Travelling Expenses (if any) £			

*Wm Gordon-Munck*  
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute *Classed* 13 APR 1908  
 Assigned *See attached report.*

