

# REPORT ON MACHINERY.

Port of Glasgow

Received at London Office MUN 10 JUL 1899

No. in Survey held at Glasgow

Date, first Survey 25 Octr '98 Last Survey 14 June 1899

on the S.S. Auchinard

(Number of Visits 8)

Master J. Peat Built at Port Glasgow By whom built Russell & Co

Tons { Gross 3618.56  
Net 2330.63  
When built 1899

Engines made at Gumport By whom made Rankin & Blackmore

when made 1899

Boilers made at do By whom made do do

when made 1899

Registered Horse Power 300 Owners Auchin Steamship Coy (Limd) Port belonging to Glasgow

Net Horse Power as per Section 28 300 Is Electric Light fitted no

**ENGINES, &c.—Description of Engines**

Description of Engines		No. of Cylinders	No. of Cranks
Diameter of Cylinders	Length of Stroke	Revolutions per minute	Diameter of Screw shaft as per rule as fitted
Diameter of Tunnel shaft as per rule as fitted	Diameter of Crank shaft journals	Diameter of Crank pin	Size of Crank webs
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	
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		
How are pipes 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	

**BOILERS, &c.—** (Letter for record S) Total Heating Surface of Boilers 662 sq ft Is forced draft fitted no

No. and Description of Boilers one return tube cylindrical Working Pressure 80 lbs Tested by hydraulic pressure to 160

Date of test 14/6/99 Can each boiler be worked separately no Area of fire grate in each boiler 26 1/2 sq ft No. and Description of safety valves to boiler two direct spring Area of each valve 5.94 sq in Pressure to which they are adjusted 80 lbs Are they fitted with easing gear yes Smallest distance between boilers or uptakes and bunkers or woodwork Boilers on deck: 11 in diameter of boilers 9.6 in

Length 8.0 Material of shell plates steel Thickness 1/2 Description of riveting: circum. seams lap single long. seams lap double

Diameter of rivet holes in long. seams 4/16 Pitch of rivets 3/16 Lap of plates or width of butt straps 5 3/4

Percentages of strength of longitudinal joint rivets 76.9 Working pressure of shell by rules 81 lbs Size of manhole in shell 16 x 12

No. of compensating ring 28 x 29 1/2 x 5/8 No. and Description of Furnaces in each boiler 2 plain Material steel Outside diameter 34 in

Length of plain part top 35.0 Thickness of plates crown 1/32 Description of longitudinal joint welded No. of strengthening rings none

Working pressure of furnace by the rules 88 lbs Combustion chamber plates: Material steel Thickness: Sides 1/2 Back 15/32 Top 1/2 Bottom 1/2

Thickness of stays to ditto: Sides 8 1/2 x 10 Back 9 x 9 Top 12 x 10 If stays are fitted with nuts or riveted heads nuts Working pressure by rules 83, 93, 105

Material of stays steel Diameter at smallest part .964 Area supported by each stay 87 1/2 sq in Working pressure by rules 97 End plates in steam space: Material steel Thickness 5/8 Pitch of stays 14 x 14 3/4 How are stays secured 2 nuts Working pressure by rules 83 Material of stays steel

Area supported by each stay 182 Working pressure by rules 111 Material of Front plates at bottom steel

Thickness 5/8 Material of Lower back plate steel Thickness 9/16 Greatest pitch of stays 13 in Working pressure of plate by rules 86

Diameter of tubes 3 1/4 Pitch of tubes 4 1/4 x 4 1/4 Material of tube plates steel Thickness: Front 5/8 Back 5/8 Mean pitch of stays 13 in

Thickness across wide water spaces 13 Working pressures by rules 86 in Girders to Chamber tops: Material steel Depth and thickness of girder at centre 6 x 5/8 double Length as per rule 1.11 in Distance apart 12 in Number and pitch of Stays in each one 10 in

Working pressure by rules 84 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	
Are they fitted 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,  
*Friday Purcell & Co* Manufacturers

Dates of Survey while building

During progress of work in shops—	} 1898:— Oct. 25. Nov. 4. 11. 28. Dec. 5. 9.		
		During erection on board vessel—	} 1899:— June 9. 14.

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

**ENGINES**—Length of stern bush \_\_\_\_\_ Diameter of crank shaft journals <sup>as per rule</sup> \_\_\_\_\_ <sub>as fitted</sub> \_\_\_\_\_ Diameter of thrust shaft under collars \_\_\_\_\_

**BOILERS**—Range of tensile strength \_\_\_\_\_ Are they welded or flanged \_\_\_\_\_ **DONKEY BOILERS**—No. *one* Range of tensile strength *25-3*

Is the approved plan of main boiler forwarded herewith \_\_\_\_\_ Is the approved plan of donkey boiler forwarded herewith *yes*

*This boiler has been constructed under special survey the materials & workmanship are of good description & it has been forwarded to Greenock & be fitted on board*

*See Greenock Report No 12419*

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,
Special .. .. .	£	:	:	3/7/1899
Donkey Boiler Fee .. .. .	£	2	2	When received,
Travelling Expenses (if any) £	:	:	:	6/7/1899

*A. McKeand*  
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute  
 Assigned

JUL 11 1899

