

# REPORT ON MACHINERY.

No. 34078

Date of writing Report 4.6.14 When handed in at Local Office 6.6.14 Port of Glasgow  
 No. in Survey held at Glasgow Date, First Survey 11.11.12 Last Survey 3.6.1914  
 Reg. Book. Glasgow (Number of Visits 33)  
 on the S.S. "BERTY"  
 Master James Richardson Built at Bowling By whom built Scott Sons (No. 248) Tons 43  
 Engines made at Glasgow By whom made Gaudie, Gillespie & Co. (No. 121) When built 1914  
 Boilers made at do. By whom made A.W. Dalgligh (No. 594) when made 1914  
 Registered Horse Power Owners Robert Henry Mungall Port belonging to Hull  
 Nom. Horse Power as per Section 28 42 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted No

**ENGINES, &c.**—Description of Engines Compound Surface Condensing No. of Cylinders 2 No. of Cranks 2  
 Dia. of Cylinders 13" 28" Length of Stroke 18" Revs. per minute 120 Dia. of Screw shaft 5.8" Material of screw shaft Iron  
 Is the screw shaft fitted with a continuous liner the whole length of the stern tube Yes Is the after end of the liner made water tight in the propeller boss Yes  
 If the liner is in more than one length are the joints burned Yes 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 Yes  
 liners are fitted, is the shaft lapped or protected between the liners Yes Length of stern bush 24"  
 Dia. of Tunnel shaft 5.44" Dia. of Crank shaft journals 5.4" Dia. of Crank pin 5.2" Size of Crank webs 10 1/2 x 3 3/4" Dia. of thrust shaft under collars 5 3/4" Dia. of screw 6-6" Pitch of Screw 9-9" No. of Blades 4 State whether moveable No Total surface 19 1/2"  
 No. of Feed pumps 1 Diameter of ditto 2" Stroke 9" Can one be overhauled while the other is at work Yes  
 No. of Bilge pumps 1 Diameter of ditto 2" Stroke 9" Can one be overhauled while the other is at work Yes  
 No. of Donkey Engines One Sizes of Pumps 4 3/4" x 3" x 5" No. and size of Suctions connected to both Bilge and Donkey pumps  
 In Engine Room 1-2" & 1-2" special In Holds, &c. 1-2" fore cabin; 1-2" aft cabin  
 No. of Bilge Injections 1 sizes 2 1/2" Connected to condenser, or to circulating pump Yes Is a separate Donkey Suction fitted in Engine room & size Yes 2"  
 Are all the bilge suction pipes fitted with roses Yes Are the roses in Engine room always accessible Yes Are the sluices on Engine room bulkheads always accessible Yes  
 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 Steam & Feed pipes How are they protected Steel tube through bunkers  
 Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times Yes  
 Are the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges Yes  
 Dates of examination of completion of fitting of Sea Connections 14.3.14 of Stern Tube 14.3.14 Screw shaft and Propeller 14.3.14  
 Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from Yes

**BOILERS, &c.**—(Letter for record 1) Manufacturers of Steel David Colville Sons  
 Total Heating Surface of Boilers 800 1/2 Is Forced Draft fitted No No. and Description of Boilers One S.E. Marine  
 Working Pressure 140 lbs. Tested by hydraulic pressure to 280 lbs. Date of test 5.2.14 No. of Certificate 12531  
 Can each boiler be worked separately Yes Area of fire grate in each boiler 29 1/2 No. and Description of Safety Valves to each boiler pair spring loaded Area of each valve 3.98 Pressure to which they are adjusted 145 lbs. Are they fitted with easing gear Yes  
 Smallest distance between boilers or uptakes and bunkers or woodwork 5'-6" Mean dia. of boilers 10'-0" Length 9'-0" Material of shell plates  
 Thickness 1/2" Range of tensile strength 30,000 Are the shell plates welded or flanged Yes Descrip. of riveting: cir. seams Yes  
 long. seams Yes Diameter of rivet holes in long. seams 1/4" Pitch of rivets 2" Lap of plates or width of butt straps 1"  
 Per centages of strength of longitudinal joint 85% Working pressure of shell by rules 145 lbs. Size of manhole in shell 18"  
 Size of compensating ring 18" No. and Description of Furnaces in each boiler 1 Material Cast Iron Outside diameter 18"  
 Length of plain part 18" Thickness of plates 1/2" Description of longitudinal joint Butt No. of strengthening rings 1  
 Working pressure of furnace by the rules 145 lbs. Combustion chamber plates: Material Cast Iron Thickness: Sides 1/2" Back 1/2" Top 1/2" Bottom 1/2"  
 Pitch of stays to ditto: Sides 12" Back 12" Top 12" If stays are fitted with nuts or riveted heads Yes Working pressure by rules 145 lbs.  
 Material of stays Cast Iron Diameter at smallest part 1 1/2" Area supported by each stay 100 Working pressure by rules 145 lbs. End plates in steam space: Yes  
 Material Cast Iron Thickness 1/2" Pitch of stays 12" How are stays secured With nuts Working pressure by rules 145 lbs. Material of stays Cast Iron  
 Diameter at smallest part 1 1/2" Area supported by each stay 100 Working pressure by rules 145 lbs. Material of Front plates at bottom Cast Iron  
 Thickness 1/2" Material of Lower back plate Cast Iron Thickness 1/2" Greatest pitch of stays 12" Working pressure of plate by rules 145 lbs.  
 Diameter of tubes 1 1/2" Pitch of tubes 12" Material of tube plates Cast Iron Thickness: Front 1/2" Back 1/2" Mean pitch of stays 12"  
 Pitch across wide water spaces 12" Working pressures by rules 145 lbs. Girders to Chamber tops: Material Cast Iron Depth and thickness of girder at centre 12"  
 Length as per rule 12" Distance apart 12" Number and pitch of stays in each 1  
 Working pressure by rules 145 lbs. Superheater or Steam chest; how connected to boiler Direct Can the superheater be shut off and the boiler worked separately Yes  
 Diameter 12" Length 12" Thickness of shell plates 1/2" Material Cast Iron Description of longitudinal joint Butt Diam. of rivet holes 1/4"  
 Pitch of rivets 2" Working pressure of shell by rules 145 lbs. Diameter of flue 12" Material of flue plates Cast Iron Thickness 1/2"  
 If stiffened with rings Yes Distance between rings 12" Working pressure by rules 145 lbs. End plates: Thickness 1/2" How stayed With stays  
 Working pressure of end plates 145 lbs. Area of safety valves to superheater 100 Are they fitted with easing gear Yes

W1218-0014

VERTICAL DONKEY BOILER— Manufacturers of Steel

Form with fields for 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, etc.

SPARE GEAR. State the articles supplied:— 2 top end bolts & nuts, 2 bottom end bolts & nuts, 2 main bearing bolts & nuts, 1 set coupling bolts, 1 set feed & large pump valves, 1 set H.P. piston rings, quantity assorted bolts & nuts & iron of various sizes.

The foregoing is a correct description,

Manufacturer. Gaudie Gillespie & Co.

Table with columns for Dates of Survey while building, During progress of work in shops, and Total No. of visits, with handwritten entries for 1912-1914.

Table with columns for Dates of Examination of principal parts, including 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.) The materials and workmanship are good. The machinery and boiler of this vessel have been constructed under special survey in accordance with the Rules and approved plans, securely fitted aboard and tried with satisfactory results under steam and are, in my opinion, suitable for classification with record + L.M.C. 6, 14. The machinery is duplicate of that fitted in s.s. "SKEEF" G.B. Rpt No 33452.

It is submitted that this vessel is eligible for THE RECORD + L.M.C. 6. 14.

Table with columns for The amount of Entry Fee, Special, Donkey Boiler Fee, Travelling Expenses (if any), and When applied for/When received.

Signature of P.J. Brown, Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute GLASGOW 9-JUN. 1914

Assigned + L.M.C. 6, 14.

Glasgow

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

Vertical text on the right margin containing various administrative notes and signatures, including 'Date of writing Report', 'No. in Survey Reg. Book', 'Master James', 'Engines made at', 'Boilers made at', 'Registered Horse', 'MULTITUBULAR', 'Boilers One', 'No. of Certificate', 'safety valves to', 'Are they fitted', 'Smallest distance', 'Material of shell', '1160 Port', 'Gaudie', 'be Specially Sur', 'For do', 'Horse Pow', 'above 200', 'than £2 2s', 'MEM.—', 'all cases w', 'to be defra', 'er No. 592', 'This request is', 'Foreign Shipping', 'While the Committe', 'stood that neither the', 'report or certificate', 'or for any error of', 'Secretary,', 'Lloyd's Reg', 'No. 11', 'Dates of Survey while building', 'Du', 'w', 'Du', 'bo', 'GENERA', 'Good', 'on bo', 'vels', 'Survey', 'Travelli', 'Committ', 'Assigned

