

REPORT ON MACHINERY.

No. 14744

Received at London Office

SAT. 17 SEP. 1921

Date of writing Report 10 When handed in at Local Office 19 Port of **NEWCASTLE-ON-TYNE**

No. in Survey held at **Walker and Wallsend** Date, First Survey **21st July 1920** Last Survey **17th Aug 1921**

Reg. Book on the **Steel screw Steamer "MONTFERLAND"** (Number of Violets **1153**)

Gross **6742** Tons Net **4114**

Master **Built at Wallsend** By whom built **Swan Hunter & Wigham Richardson Ltd** When built **1921**

Engines made at **Manchester/Wallsend** By whom made **Swan Hunter & Wigham Richardson Ltd** when made **1921**

Boilers made at **Walker on Tyne** By whom made **Swan Hunter & Wigham Richardson Ltd** when made **1921**

Registered Horse Power **1066** Owners **Koninklijke Hollandsche Lloyd** Port belonging to **Amsterdam**

Shaft Horse Power at Full Power **5500** Is Refrigerating Machinery fitted for cargo purposes **yes** Is Electric Light fitted **yes**

TURBINE ENGINES, &c. Description of Engines **Geared Turbines - Pateau Impulse** No. of Turbines **Two**

Diameter of Rotor Shaft Journals, H.P. **4 1/2"** L.P. **4 1/2"** Diameter of Pinion Shaft **3 5/8"**

Diameter of Journals **6 1/2"** Distance between Centres of Bearings **6 1/2"** Diameter of Pitch Circle **8 3/5"**

Diameter of Wheel Shaft **16 1/2"** Distance between Centres of Bearings **6-7"** Diameter of Pitch Circle of Wheel **20 9/16"**

Width of Face **22"** Diameter of Thrust Shaft under Collars **17"** Diameter of Tunnel Shaft **15 9/16"**

No. of Screw Shafts **one** Diameter of same **17 1/8"** Diameter of Propeller **18-4"** Pitch of Propeller **17-0 1/2"**

No. of Blades **4** State whether Moveable **Yes** Total Surface **100 sq ft** Diameter of Rotor Drum, H.P. **-** L.P. **-** Astern **-**

Thickness at Bottom of Groove, H.P. **-** L.P. **-** Astern **-** Revs. per Minute at Full Power, Turbine **3180** Propeller **80**

PARTICULARS OF BLADING. - please see Manchester report - 4804. dated 24.6.21

	H.P.			L.P.			ASTERN.		
	HEIGHT OF BLADES.	DIAMETER AT TIP.	NO. OF ROWS.	HEIGHT OF BLADES.	DIAMETER AT TIP.	NO. OF ROWS.	HEIGHT OF BLADES.	DIAMETER AT TIP.	NO. OF ROWS.
1ST EXPANSION									
2ND									
3RD									
4TH									
5TH									
6TH									
7TH									
8TH									

No. and size of Feed pumps **Clark Chapmans 13 1/2" x 10" x 21" Duplex** **Harlow feed pump C. C. & Co. 9 1/2" x 7" x 18" (one)**

No. and size of Bilge pumps **Bilge pumps (2) 6" x 8" x 10"** **Ballast pump 9" x 12" x 12"**

No. and size of Bilge suction in Engine Room **two ports two stow and 3" tunnel well 3"**

In Holds, &c. **two of 3 1/2" each hold**

No. of Bilge Injections **1** sizes **14"** Connected to condenser, or to circulating pump **CP** Is a separate Donkey Suction fitted in Engine Room & size **yes 3 1/2"**

Are all the bilge suction pipes fitted with roses **yes** Are the roses in Engine room 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 **both**

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 **Forward Bilge Suctions** How are they protected **Casing**

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**

Is the Screw Shaft Tunnel watertight **yes** Is it fitted with a watertight door **yes** worked from **Top platform**

BOILERS, &c. (Letter for record **S**) Manufacturers of Steel **Spencer & Sons Ltd.**

Total Heating Surface of Boilers **13300** Is Forced Draft fitted **yes** No. and Description of Boilers **5 Multitubular SE. cylindrical**

Working Pressure **200 lbs** Tested by hydraulic pressure to **350 lbs** Date of test **10-6-21** No. of Certificate **9571- J.M.**

Can each boiler be worked separately **yes** Area of fire grate in each boiler **65.4 sq ft** No. and Description of Safety Valves **5**

each boiler **two direct spring** Area of each valve **9.6 sq in** Pressure to which they are adjusted **205 lbs** Are they fitted with easing gear **yes**

Smallest distance between boilers or uptakes and bunkers or woodwork **14"** Mean dia. of boilers **15.9"** Length **12-0"** Material of shell plates **Steel**

Thickness **1 1/2"** Range of tensile strength **29 1/2 to 34 tons** Are the shell plates welded or flanged **no** Descrip. of riveting: cir. seams **DR. Cap.**

long, seams **DBS. TR** Diameter of rivet holes in long, seams **1 7/8"** Pitch of rivets **two rows 4 1/2"** Lap of plates or width of butt straps **21"**

Per centages of strength of longitudinal joint **85.2%** Working pressure of shell by rules **212 lbs** Size of manhole in shell **16" x 12"**

Size of compensating ring **37 x 41"** No. and Description of Furnaces in each Boiler **3. DEIGHTON** Material **steel** Outside diameter **49 3/4"**

Length of plain part **8-1 1/2"** Thickness of plates **1 1/2"** Description of longitudinal joint **well** No. of strengthening rings **none**

Working pressure of furnace by the rules **227 lbs** Combustion chamber plates: Material **steel** Thickness: Sides **3/4"** Back **3/4"** Top **3/4"** Bottom **1 1/2"**

Pitch of stays to ditto: Sides **9 1/2" x 9"** Back **9 1/2" x 9"** Top **9 1/2" x 9 1/4"** If stays are fitted with nuts or riveted heads **yes** Working pressure by rules **220 lbs**

Material of stays **steel** Diameter at smallest part **2.03"** Area supported by each stay **88 sq in** Working pressure by rules **208 lbs** End plates in steam space **steel**

Material **steel** Thickness **1 1/2"** Pitch of stays **22" x 21"** How are stays secured **DN + W** Working pressure by rules **218 lbs** Material of stays **steel**

Diameter at smallest part **10.55"** Area supported by each stay **423 sq in** Working pressure by rules **232 lbs** Material of Front plates at bottom **steel**

Thickness **1"** Material of Lower back plate **steel** Thickness **1 1/2"** Greatest pitch of stays **14 1/4"** Working pressure of plate by rules **208 lbs**

Diameter of tubes **3 1/2"** Pitch of tubes **4 1/2" x 4 1/2"** Material of tube plates **steel** Thickness: Front **1"** Back **3/4"** Mean pitch of stays **11 1/4"**

Pitch across wide water spaces **14 1/4"** Working pressures by rules **201 lbs** Girders to Chamber tops: Material **steel** Depth and thickness of girder at centre **9 1/2" x 1 1/2"** Length as per rule **33-47"** Distance apart **9 1/2"** Number and pitch of stays in each **two - 9 1/2" pitch**

Working pressure by rules **205 lbs** Steam dome: description of joint to shell **none** % of strength of joint **-** Diameter **-**

Thickness of shell plates **-** Material **-** Description of longitudinal joint **-** Diameter of rivet holes **-** Pitch of rivets **-**

Working pressure of shell by rules **-** Crown plates: Thickness **-** How stayed **-**

