

REPORT ON MACHINERY.

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Date of writing Report *1 JUN 1918* Port of *Sumnerland*

No. in Survey held at *Sumnerland* Date, First Survey *11 Aug. 17* Last Survey *28 May 1918*
Reg. Book. on the *S/S WAR BATTERY* (Number of Visits *2352*)

Master *Pell* Built at *Sumnerland* By whom built *Astronaut. Graham & Co. Ltd.* Tons *2352*
Gross *1343*
Net *1915*
When built *1918*

Engines made at *Sumnerland* By whom made *Macmillan & Paterson Ltd.* when made *1918*

Boilers made at *Sumnerland* By whom made *Sumnerland* when made *1918*

Registered Horse Power *416* Owners *Shipping Controller (Baker & Stanfield)* Port belonging to *London*
Nom. Horse Power as per Section 28 *416* Is Refrigerating Machinery fitted for cargo purposes *Yes* Is Electric Light fitted *Yes*

ENGINES, &c.—Description of Engines *Tripoli* No. of Cylinders *3* No. of Cranks *3*
Dia. of Cylinders *25 1/2, 41, 68* Length of Stroke *45* Revs. per minute *76* Dia. of Screw shaft *12.4* Material of *Steel*
as per rule *12.4* as fitted *12.5* as per rule *13.02* as fitted *13.4*

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* If two liners are fitted, is the shaft lapped or protected between the liners *Yes* Length of stern bush *5-0*

Dia. of Tunnel shaft *13 1/4* Dia. of Crank shaft journals *13 1/2* Dia. of Crank pin *13 1/2* Size of Crank webs *8 1/2* Dia. of thrust shaft under collars *13 1/4* Dia. of screw *15.6* Pitch of Screw *17.0* No. of Blades *4* State whether moveable *No* Total surface *75.5*

No. of Feed pumps *2* Diameter of ditto *3 1/2* Stroke *24* Can one be overhauled while the other is at work *Yes*
No. of Bilge pumps *2* Diameter of ditto *3 1/2* Stroke *24* Can one be overhauled while the other is at work *Yes*
No. of Donkey Engines *4* Sizes of Pumps *2 1/2, 2, 2 1/2, 2 1/2* No. and size of Suctions connected to both Bilge and Donkey pumps
In Engine Room *3, 3" dia* In Holds, &c. *Fore hold 2, 3" dia. After hold 3, 3" dia.*

No. of Bilge Injections *1* sizes *8* Connected to condenser or to circulating pump *Yes* Is a separate Donkey Suction fitted in Engine room of size *Yes 3"*
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 *None* How are they protected *—*
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 *13.3.18* of Stern Tube *15.4.18* Screw shaft and Propeller *15.4.18*
Is the Screw Shaft Tunnel watertight *Yes* Is it fitted with a watertight door *No* worked from *Access from Trunk from Deck*

OILERS, &c.—(Letter for record *5*) Manufacturers of Steel *John Brown & Sons*

Total Heating Surface of Boilers *6106* Is Forced Draft fitted *Yes* No. and Description of Boilers *Two single main*
Working Pressure *180 lbs* Tested by hydraulic pressure to *360 lbs* Date of test *22.12.18, 18.4.18* No. of Certificates *3070, 3471*

Can each boiler be worked separately *Yes* Area of fire grate in each boiler *75.9* No. and Description of Safety Valves to each boiler *2 Spring valves* Area of each valve *12.5* Pressure to which they are adjusted *185 lbs* Are they fitted with easing gear *Yes*

Smallest distance between boilers or uptakes and bunkers or woodwork *10 1/2* Mean dia. of boilers *16-6* Length *11-9* Material of shell plates *S*
Thickness *1 1/2* Range of tensile strength *28-33* Are the shell plates welded or flanged *Yes* Descrip. of riveting: cir. seams *Lap off*
long. seams *1 1/2* Diameter of rivet holes in long. seams *1 3/8* Pitch of rivets *9 3/8* Lap of plates or width of butt straps *20 1/2*

Per centages of strength of longitudinal joint rivets *87.2* Working pressure of shell by rules *204* Size of manhole in shell *12 x 16*
plate *85.3* No. and Description of Furnaces in each boiler *4 Diphtheria* Material *S* Outside diameter *3-8 1/2*

Length of plain part *—* Thickness of plates *9 1/8* Description of longitudinal joint *Welded* No. of strengthening rings *—*
Working pressure of furnace by the rules *198* Combustion chamber plates: Material *S* Thickness: Sides *3 1/2* Back *3 1/4* Top *2 3/4* Bottom *3 1/2*

Pitch of stays to ditto: Sides *10 1/2 x 8 3/4* Back *10 1/2 x 9* Top *10 1/2 x 8 3/4* If stays are fitted with nuts or riveted heads *Nuts* Working pressure by rules *200*
Material of stays *S* Diameter at smallest part *2 1/8* Area supported by each stay *88.6* Working pressure by rules *206* End plates in steam space *—*

Material *S* Thickness *1 1/4* Pitch of stays *24 x 22 1/2* How are stays secured *As in W* Working pressure by rules *180* Material of stays *S*
Diameter at smallest part *8.48* Area supported by each stay *4900* Working pressure by rules *180* Material of Front plates at bottom *S*

Thickness *1 1/4* Material of Lower back plate *S* Thickness *7/8* Greatest pitch of stays *13 3/4 x 9 1/2* Working pressure of plate by rules *196*
Diameter of tubes *2 3/4* Pitch of tubes *3 1/2 x 4* Material of tube plates *S* Thickness: Front *1 1/4* Back *3/4* Mean pitch of stays *9 1/2*

Pitch across wide water spaces *13 3/4* Working pressures by rules *191* Girders to Chamber tops: Material *S* Depth and thickness of girder at centre *2.2 10 x 1 1/2* Length as per rule *35 1/2* Distance apart *10 1/2* Number and pitch of stays in each *3, 8 3/4*

Working pressure by rules *192* 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 *—*



