

## REPORT ON MACHINERY.

Port of *Newcastle-on-Tyne*

Received at London Office

No. in Survey held at *South Shields*  
Reg. Book. *S/S No 203*  
on theDate, first Survey *Nov 2nd '00* Last Survey *Nov 14th '01*(Number of Visits *40*)

Master

Built at *Capella*By whom built *A. Vuyk*Tons { Gross *Not*  
Net *known*  
When built *1901*Engines made at *South Shields*By whom made *G. J. Gray*when made *1901*Boilers made at *South Shields*By whom made *J. J. Eltringham & Co*when made *1901*

Registered Horse Power

Owners *Not known*Port belonging to *Not known*Nom. Horse Power as per Section 28 *728 132*Is Refrigerating Machinery fitted *no*Is Electric Light fitted *no*ENGINES, &c.—Description of Engines *Trip Expansion*No. of Cylinders *3* No. of Cranks *3*Dia. of Cylinders *17" 28 1/2" 46"* Length of Stroke *30"* Revs. per minute *85* Dia. of Screw shaft *as per rule 9.97 10.1*  
as per rule *8.341* Dia. of Crank shaft journals *as per rule 8.72 8.5* as fitted *10"* Lgth. of stern bush *3-4 1/2"*  
Dia. of Tunnel shaft *as fitted 8 1/2"* Dia. of Crank pin *as fitted 8 1/2"* Size of Crank webs *28 1/2" x 5 1/2"* Dia. of thrust shaft under  
collars *8 1/2"* Dia. of screw *12-0"* Pitch of screw *14-0"* No. of blades *4* State whether moveable *no* Total surface *42 1/2"*No. of Feed pumps *2* Diameter of ditto *2 3/4"* Stroke *16"* Can one be overhauled while the other is at work *yes*No. of Bilge pumps *2* Diameter of ditto *3 1/4"* Stroke *16"* Can one be overhauled while the other is at work *yes*No. of Donkey Engines *2* Sizes of Pumps *5 1/4" x 3 1/2" x 5" + 6" x 8 1/2" x 6"* No. and size of Suctions connected to both Bilge and Donkey pumpsIn Engine Room *Four 2 1/2" dia.* In Holds, &c. *In main hold 2. 2 1/2" In after*No. of bilge injections *1* sizes *4"* Connected to condenser to circulating pump *yes* Is a separate donkey suction fitted in Engine room & size *no 2 1/2"*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 *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*When were stern tube, propeller, screw shaft, and all connections examined in dry dock *8/10/01* Is the screw shaft tunnel watertight *yes*Is it fitted with a watertight door *yes* worked from *Upper Platform*

## BOILERS, &amp;c.—

(Letter for record *5*)Total Heating Surface of Boilers *2136 1/2*Is forced draft fitted *no*No. and Description of Boilers *One cylindrical single ended* Working Pressure *180 lbs* Tested by hydraulic pressure to *360 lbs*Date of test *13/9/01* Can each boiler be worked separately *✓* Area of fire grate in each boiler *50 1/2* No. and Description of safety valves toeach boiler *2 Spring valves* Area of each valve *5.93* 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 *18"* Mean dia. of boilers *14-6"* Length *10-6"* Material of shell plates *S*Thickness *1 1/4"* Range of tensile strength *28-32* Are they welded or flanged *✓* Descrip. of riveting: cir. seams *Lap length* long. seams *d.t. both*Diameter of rivet holes in long. seams *1 5/16* Pitch of rivets *7 1/2"* Lap of plates *width of butt straps 18 3/8"*Per centages of strength of longitudinal joint *82* Working pressure of shell by rules *182* Size of manhole in shell *12" x 16"*Size of compensating ring *7 1/2" x 1 1/4"* No. and Description of Furnaces in each boiler *3 Plain* Material *S* Outside diameter *42"*Length of plain part *top 6-6" bottom 6-0"* Thickness of plates *top 3/4" bottom 1/2"* Description of longitudinal joint *d.t. single* No. of strengthening rings *one*Working pressure of furnace by the rules *180* Combustion chamber plates: Material *S* Thickness: Sides *3/32* Back *5/8"* Top *3/32* Bottom *1/4"*Pitch of stays to ditto: Sides *7 3/4" x 9 3/4"* Back *8" x 9 1/4"* Top *9"* If stays are fitted with nuts or riveted heads *nuts* Working pressure by rules *181*Material of stays *S* Diameter at smallest part *1 5/32* Area supported by each stay *72"* Working pressure by rules *181* End plates in steam space:Material *S* Thickness *3/32 x 5/16* Pitch of stays *19 1/2"* How are stays secured *d.n.o.w.* Working pressure by rules *185* Material of stays *S*Diameter at smallest part *3 5/32* Area supported by each stay *360"* Working pressure by rules *190* Material of Front plates at bottom *S*Thickness *3/32* Material of Lower back plate *S* Thickness *1/16* Greatest pitch of stays *15 1/2" x 9 1/4"* Working pressure of plate by rules *186*Diameter of tubes *3 1/2"* Pitch of tubes *4 3/4" x 4 5/8"* Material of tube plates *S* Thickness: Front *3/32* Back *27/32* Mean pitch of stays *9 1/2"*Pitch across wide water spaces *14 1/2"* Working pressures by rules *183* Girders to Chamber tops: Material *S* Depth andthickness of girder at centre *7 x 2 5/16"* Length as per rule *2-7"* Distance apart *9"* Number and pitch of Stays in each *2. 9"*Working pressure by rules *182* Superheater or Steam chest; how connected to boiler *✓* Can the superheater be shut off and the boiler workedseparately *✓* Diameter *✓* Length *✓* Thickness of shell plates *✓* Material *✓* Description of longitudinal joint *✓* Diam. of rivetholes *✓* 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 *✓*



*Yid*  
DONKEY BOILER— No. *one* Description *Vertical cross tubes*  
Made at *Berwick-on-Tyne* by whom made *L. Black* When made *8.7.01* Where fixed *St. Mary's*  
Working pressure *100 lbs* Tested by hydraulic pressure to *200 lbs* No. of Certificate *498* Fire grate area *24.5* Description of safety valves *Spring*  
No. of safety valves *one* Area of each *12.5* Pressure to which they are adjusted *100 lbs* If fitted with easing gear *Yes* If steam from main boilers  
enter the donkey boiler *No* Dia. of donkey boiler *6-6"* Length *10-6"* Material of shell plates *S* Thickness *3/8"* Range of tensi  
strength *27-32* Descrip. of riveting long. seams *Lap butt* Dia. of rivet holes *13/16"* Whether punched or drilled *Drilled* Pitch of rivets *4"*  
Lap of plating *5 1/4"* Per centage of strength of joint *80.3* Thickness of shell crown plates *19/32"* Radius of do. *7-0"* No. of Stays to do. *6*  
Dia. of stays *1 1/8"* Diameter of furnace Top *5-1"* Bottom *5-9"* Length of furnace *56"* Thickness of furnace plates *5/8"* Description  
joint *Lap single* Thickness of furnace crown plates *5/8"* Stayed by *as above* Working pressure of shell by rules *100*  
Working pressure of furnace by rules *100 lbs* Diameter of uptake *16"* Thickness of uptake plates *3/8"* Thickness of water tubes *3/8"*

SPARE GEAR. State the articles supplied:— *one propeller, two top end and two bottom end  
connecting rod bolts and nuts, two main bearing bolts, one set coupling bolts  
one set fuel pump valves, assorted bolts & nuts, 200 of various sizes.*

The foregoing is a correct description,  
*4.4 Grey Engine* Manufacturer. *J. W. Cunningham & Co. Marine Main Works*

Dates of Survey while building  
During progress of work in shops— *1901 Jan 11, 22, 30, Feb 6, 22, Apr 15, 26, May 31, June 11, July 22, Aug 26, Sep 13, Oct 21, 26, Nov 11*  
During erection on board vessel— *Blk: 1900 Nov 29, Dec 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 1901 Jan 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31*  
Total No. of visits *40* *6.12.1901* Is the approved plan of main boiler forwarded herewith *Yes*

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

Material of screw shaft *Iron* Is the screw shaft fitted with a continuous liner the whole length of the stern tube *No*  
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 *✓*  
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 *Yes*

*The machinery of this vessel has been built under special survey. The materials & workmanship are sound and good and under the vessel eligible in my opinion to have record of L.M.C. 11.01*

It is submitted that  
this vessel is eligible for  
THE RECORD. + L.M.C. 11.01

*C.M.*  
*13.11.01*

*J.S.*  
*13.11.01*

The amount of Entry Fee. £ *2* : : :  
Special £ *19* : *4* : :  
Donkey Boiler Fee £ : : :  
Travelling Expenses (if any) £ : : :  
When applied for, *12 NOV 1901*  
When received, *14/11/01*

Committee's Minute *TUES. FEB 11 1902*

Assigned

*G.A. Salk & J.G. MacKillop*  
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

*FRI. FEB 14 1902*

*TUES. FEB 11 1902*

Lloyd's Register  
Foundation