

REPORT ON MACHINERY.

No. 50904

Port of *Newcastle on Tyne*

Received at London Office **MON. 11 JUN 1906**

No. in Survey held at *S. Shields*

Date, first Survey *Jan 10th 1906* Last Survey *May 22nd 1906*

Reg. Book. *S. S. "Lilian"*

(Number of Visits *12*)

Master *G. G. G. G.* Built at *G. G. G. G.* By whom built *G. G. G. G. S. B. C.*

Tons { Gross *320*
Net *127*
When built *1906.5.*

Engines made at *S. Shields* By whom made *G. J. Gray* when made *1906.5.*

Boilers made at *do.* By whom made *J. J. C. C. C. C.* when made *1906.*

Registered Horse Power *71* Owners *Westcombe Shipping Co Ltd* Port belonging to *Humworth.*

Nom. Horse Power as per Section 28 *71* Is Refrigerating Machinery fitted for cargo purposes *No.* Is Electric Light fitted *No.*

ENGINES, &c.—Description of Engines *Compound.* No. of Cylinders *2* No. of Cranks *2*

Dia. of Cylinders *18-36* Length of Stroke *24* Revs. per minute *7.66* Dia. of Screw shaft *7.66* 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* If two

liners are fitted, is the shaft lapped or protected between the liners *Yes* Length of stern bush *2'-8"*

Dia. of Tunnel shaft *7.375* Dia. of Crank shaft journals *7.52* Dia. of Crank pin *7.625* Size of Crank webs *14 1/4 x 5* Dia. of thrust shaft under

collars *7.625* Dia. of screw *8-9* Pitch of Screw *12'-0"* No. of Blades *4* State whether moveable *No.* Total surface *30 Sq. Ft.*

No. of Feed pumps *2* Diameter of ditto *2 1/4* Stroke *13* Can one be overhauled while the other is at work *Yes*

No. of Bilge pumps *2* Diameter of ditto *2 1/8* Stroke *13* Can one be overhauled while the other is at work *Yes*

No. of Donkey Engines *One* Size of Pump *5 1/4 x 3 1/2 x 5* Dup. No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room *Two 2" Bore.* In Holds, &c. *Five 1 1/2" 3" Five 1 1/2" 2 1/2"*

No. of Bilge Injections *1* sizes *3/4* Connected to condenser, or to circulating pump *Pump* 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 *None* How are they protected *Yes*

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 *10.4.06* of Stern Tube *10.4.06* Screw shaft and Propeller *10.4.06*

Is the Screw Shaft Tunnel watertight *Yes* Is it fitted with a watertight door *Yes* worked from *Yes*

BOILERS, &c.—(Letter for record) Manufacturers of Steel

Total Heating Surface of Boilers Is Forced Draft fitted No. and Description of Boilers

Working Pressure Tested by hydraulic pressure to Date of test No. of Certificate

Can each boiler be worked separately Area of fire grate in each boiler No. and Description of Safety Valves to

each boiler Area of each valve Pressure to which they are adjusted Are they fitted with easing gear

Smallest distance between boilers or uptakes and bunkers or woodwork Mean dia. of boilers Length Material of shell plates

Thickness Range of tensile strength Are the shell plates welded or flanged Descrip. of riveting: cir. seams

long. seams Diameter of rivet holes in long. seams Pitch of rivets Lap of plates or width of butt straps

Per centages of strength of longitudinal joint rivets Working pressure of shell by rules Size of manhole in shell

Size of compensating ring No. and Description of Furnaces in each boiler Material Outside diameter

Length of plain part top Thickness of plates crown Description of longitudinal joint No. of strengthening rings

Working pressure of furnace by the rules Combustion chamber plates: Material Thickness: Sides Back Top Bottom

Pitch of stays to ditto: Sides Back Top If stays are fitted with nuts or riveted heads Working pressure by rules

Material of stays Diameter at smallest part Area supported by each stay Working pressure by rules End plates in steam space:

Material Thickness Pitch of stays How are stays secured Working pressure by rules Material of stays

Diameter at smallest part Area supported by each stay Working pressure by rules Material of Front plates at bottom

Thickness Material of Lower back plate Thickness Greatest pitch of stays Working pressure of plate by rules

Diameter of tubes Pitch of tubes Material of tube plates Thickness: Front Back Top Bottom Mean pitch of stays

Pitch across wide water spaces Working pressures by rules Girders to Chamber tops Material Depth and

thickness of girder at centre Length as per rule Distance apart Number and pitch of stays in each

Working pressure by rules 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

8920-5601M



VERTICAL DONKEY BOILER Manufacturers of Steel

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 _____
 Valves _____ No. of Safety Valves _____ Area of each _____ Pressure to which they are adjusted _____ Date of adjustment _____
 If fitted with easing gear _____ If steam from main boilers can enter the donkey boiler _____ Dia. of donkey boiler _____ Length _____
 Material of shell plates _____ Thickness _____ Range of tensile strength _____ Descrip. of riveting long. seams _____
 Dia. of rivet holes _____ Whether punched or drilled _____ Pitch of rivets _____ Lap of plating _____ Per centage of strength of joint _____ Rivets _____ Plates _____
 Working pressure of shell by rules _____ 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 _____
 Working pressure of furnace by rules _____ Thickness of furnace crown plates _____ Stayed by _____
 Diameter of uptake _____ Thickness of uptake plates _____ Thickness of water tubes _____ Dates of survey _____

SPARE GEAR. State the articles supplied: - 2. Main Bearing Bolts, 2 Sp and end 2. Bottom end Bolts, One set Coupling Bolts, One set Piston Bolts, One set each Pump valves, One Propeller

The foregoing is a correct description,

G. J. Grey Engine Builder

Manufacturer.

Dates of Survey while building
 During progress of work in shops - 1906 Jan 12, Feb 6, 16, Mar 8, 16, Apr 3, May 27.
 During erection on board vessel - Apr 10, May 1, 22.
 Total No. of visits 12

Is the approved plan of main boiler forwarded herewith Yes No.

Dates of Examination of principal parts - Cylinders 10-1-06 Slides 4-4-06 Covers 4-4-06 Pistons 4-4-06 Rods 4-4-06
 Connecting rods 4-4-06 Crank shaft ^{made & finished at date} Thrust shaft _____ Tunnel shafts none Screw shaft 4-4-06 Propeller 4-4-06
 Stern tube 3-3-06 Steam pipes tested 10-5-06 Engine and boiler seatings 7-5-06 Engines holding down bolts 7-5-06
 Completion of pumping arrangements 12-5-06 Boilers fixed 12-5-06 Engines tried under steam 12-5-06
 Main boiler safety valves adjusted 12-5-06 Thickness of adjusting washers P. 7/16 f. 5/16 f.
 Material of Crank shaft I. Identification Mark on Do. 1666 G.A.H. Material of Thrust shaft 1666 I. Identification Mark on Do. G.H.
 Material of Tunnel shafts none Identification Marks on Do. ✓ Material of Screw shafts I. Identification Marks on Do. G.T.
 Material of Steam Pipes Copper. Test pressure 260 lbs. sq.

General Remarks (State quality of workmanship, opinions as to class, &c. This machinery constructed under special survey, the material and workmanship being sound and efficient is eligible in my opinion for record. + L.M.C. 5.06

It is submitted that this vessel is eligible for THE RECORD L.M.C. 5.06.

11.6.06
 11-5-06

The amount of Entry Fee . . . £ 1 : . . . When applied for.
 Special £ 10 : 13 : 17 MAY 1906
 Donkey Boiler Fee £
 Travelling Expenses (if any) £ When received.
 Ldn 23/5/06 HR

E. A. Dryden Joyce & W. Lane
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute TUES. JUN 12 1906

Assigned

+ L.M.C. 5.06

MACHINERY CERTIFICATE WRITTEN.



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

STRA
 FLAT PLATE I (If Bar Keel, & GARBOARD OF
 State actual thickness in way of Double Bottom.
 Doubling of Length and thickness of POOP SIDES RAISED QU BRIDGE SID FORECASTLE LENGTHS O
 Manu manufactu Plates, out South
 Has the S
 FRAMES REVERS
 LOWER M
 Bowsprit Topmasts Rigging Sails.
 Equip
 Number of Certificat
 2968
 2969
 2968
 Numb Certifi
 301
 Stra Steel
 Boats Pump Wind Engi What Coal Numl Ceili Carg State Num Bul The Buil