

REPORT ON MACHINERY.

No. 8290

(Received in London Office 13 NOV 82)

No. in Survey held at Port Glasgow & Glasgow Date, first Survey 20th March 82 Last Survey 8th Nov 1882

Reg. Book. on the S.S. "Hye Long" Tons 491.79
295.571

Master Lyon Built at Port Glasgow When built 1882

Engines made at Port Glasgow By whom made Blackburn & Gordon when made 1882

Boilers made at Glasgow By whom made Anderson & Lyell when made 1882

Registered Horse Power 110 Owners Martin Lunn & Co Port belonging to Glasgow

ENGINES, &c.—

Description of Engines Compound Inverted Direct Acting
Diameter of Cylinders 28" & 50" Length of Stroke 30" No. of Rev. per minute 90 Point of Cut off, High Pressure 20" Low Pressure 20"
Diameter of Screw shaft 9" Diameter of Tunnel shaft 8 1/2" Diameter of Crank shaft journals 9" Diameter of Crank pin, 4" size of Crank webs 6 1/4" x 10 1/2"
Diameter of screw 9 1/16" Pitch of screw 16.0 No. of blades 4 state whether moveable yes total surface 30.0 feet
No. of Feed pumps 2 diameter of ditto 3 1/4" Stroke 15" Can one be overhauled while the other is at work yes
No. of Bilge pumps 2 diameter of ditto 3 1/4" Stroke 15" Can one be overhauled while the other is at work yes
Where do they pump from Engine Room & Cargo Holds
No. of Donkey Engines one Size of Pumps 4" x 8" stroke Where do they pump from Sea & bilges

Are all the bilge suction pipes fitted with roses yes Are the roses always accessible yes Are the sluices on Engine room bulkheads always accessible yes
No. of bilge injections one and sizes 3" Are they connected to condenser, or to circulating pump to Condenser
How are the pumps worked by levers

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 a little below
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 accessible at all times yes
Are the pipes, cocks, and valves arranged so as to prevent an unintentional connection between the sea and the bilges yes
When were stern tube, propeller, screw shaft, and all connections examined in dry dock on ship before vessel was launched
Is the screw shaft tunnel watertight yes and fitted with a sluice door yes worked from Engine Room top platform

BOILERS, &c.—

Number of Boilers One Description Cylindrical - Multitubular
Working Pressure 90 lbs Tested by hydraulic pressure to 180 lbs Date of test Sept 26th 1882

Description of ~~superheating apparatus~~ steam chest Horizontal
Can each boiler be worked separately — Can the superheater be shut off and the boiler worked separately —

No. of square feet of fire grate surface in each boiler 60 Description of safety valves Direct Spring
No. to each boiler 2 area of each valve 15.9 sq in Are they fitted with easing gear yes

No. of safety valves to superheater — area of each valve — are they fitted with easing gear —

Smallest distance between boilers and bunkers or woodwork 10 1/2"
Diameter of boilers 14'-0" Length of boilers 10'-0" description of riveting of shell long. seams Double butt circum. seams Double lap

Thickness of shell plates 7/8" diameter of rivet holes 1 1/32" whether punched or drilled Drilled pitch of rivets 5"
Lap of plating Bull chap 12 3/4 x 32 per centage of strength of longitudinal joint 76 working pressure of shell by rules 100 lbs

Size of manholes in shell 15 3/4" x 12" size of compensating rings L 3 1/2" x 3 1/2" x 9/16"
No. of Furnaces in each boiler three outside diameter 3'-9" length, top 6'-0" bottom 9'-0"

Thickness of plates 9/16" description of joint Bull if rings are fitted yes greatest length between rings 6'-0"
Working pressure of furnace by the rules 105 lbs

Combustion chamber plating, thickness, sides 1/2" back 1/2" top 1/2"
Pitch of stays to ditto sides 8" back 8" top 9 1/4" with nuts

If stays are fitted with nuts or riveted heads Riveted heads working pressure of plating by rules 100 lbs - 90 lbs hp

Diameter of stays at smallest part 1 3/8" screw working pressure of ditto by rules 110 lbs
End plates in steam space, thickness 3/32" pitch of stays to ditto 16" how stays are secured Nuts

Working pressure by rules 97 lbs diameter of stays at smallest part 2 3/8" working pressure by rules 100 lbs
Front plates at bottom, thickness 5/8" Back plates, thickness 5/8" greatest pitch of stays 8" working pressure by rules 150 lbs

Diameter of tubes $3\frac{1}{2}$ " pitch of tubes $4\frac{3}{4}$ " thickness of tube plates, front $\frac{7}{8}$ " back $\frac{7}{8}$ "
 How stayed *Stay tubes* pitch of stays $15 \times 9\frac{1}{2}$ " width of water spaces 6"
 Diameter of ~~Superheater or~~ Steam chest 3'-3" length 7'-0"
 Thickness of plates $\frac{3}{8}$ " description of longitudinal joint *Double lap* diameter of rivet holes $\frac{13}{16}$ " pitch of rivets $2\frac{1}{2}$ "
 Working pressure of shell by rules 100 lbs Diameter of flue — thickness of plates —
 If stiffened with rings — distance between rings — Working pressure by rules —
 End plates of ~~superheater or~~ steam chest; thickness $\frac{1}{16}$ " How stayed *Four stays 2" dia*
 Superheater or steam chest; how connected to boiler *Iron neck, double riveted* P.E.R.

DONKEY BOILER— Description *Vertical*
 Made at *Glasgow* By whom made *Marriott & Graham* when made 1882.
 Where fixed *in M.H. hole* working pressure 40 lbs Tested by hydraulic pressure to 80 lbs No. of Certificate 764
 Fire grate area 12 sq ft Description of safety valves *Direct spring* No. of safety valves *one* area of each 7 sq
 If fitted with easing gear *yes* If steam from main boilers can enter the donkey boiler *no*
 Diameter of donkey boiler 4'-8" length 7'-6" description of riveting *Single*
 thickness of shell plates $\frac{3}{8}$ " diameter of rivet holes $\frac{13}{16}$ " whether punched or drilled *Punched*
 pitch of rivets 2" lap of plating $2\frac{1}{4}$ " per centage of strength of joint 60
 thickness of crown plates $\frac{7}{16}$ " stayed by *Four stays 1 3/4 dia*
 Diameter of furnace, top 3'-6" bottom 4'-0" length of furnace 3'-6"
 thickness of plates $\frac{3}{8}$ " description of joint *Lap, single riveted with welded crown plate*
 thickness of furnace crown plates $\frac{7}{16}$ " stayed by *Four stays also uptake*
 Working pressure of shell by rules 60 lbs working pressure of furnace by rules 62 lbs
 diameter of uptake 13" thickness of plates $\frac{3}{8}$ " thickness of water tubes 10 dia P.E.R.

The foregoing is a correct description,
Blackwood & Gordon Manufacturer.

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

The Engines & Boilers, specially surveyed during Construction; quality of workmanship good; and the Machinery and Boilers are now in good order & safe working condition. And are in my opinion eligible to be noted the Register Book

LLOYD'S M.C. 11.82

Submitted that this vessel is eligible to have the notification of LMC recorded RM 9/11/82

The amount of Entry Fee £ 2 : : : received by me,

Special .. £ 16 : 10 : *Greenock*

Certificate (if required) .. £ *Gratis* 18 Mo. 1882

To be sent as per margin.

(Travelling Expenses, if any, £)

Committee's Minute

Dated, 11th December 1882,

Andrew L. Heron
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Greenock District

Lloyd's Register
 Foundation