

REPORT ON MACHINERY.

Port of *Glasgow*

TRUL. 6 AUG 1891

No. *16152*

No. in Survey held at *Glasgow*

Date, first Survey *14th May 1889* Last Survey *July 24th 1891.*

Reg. Book.

(Number of Visits *62*)

on the *S/S "Virginia Pirano"*

Tons { Gross *2094.16*
Net *1340.09*

Master *Hope* Built at *Funderland* By whom built *Blumer & Lay*

When built *1891.*

Engines made at *Glasgow* By whom made *Alley & MacLellan* when made *1891.*

Boilers made at *Glasgow* By whom made *Alley & MacLellan* when made *1891.*

Registered Horse Power *1000* Owners *The Great Western Steamship Co. Ltd.* Port belonging to *London.*

BY Rules - *194.*

ENGINES, &c.

Description of Engines *Triple Expansion* No. of Cylinders *Three*

Diam. of Cylinders *21", 33" & 54"* Length of Stroke *42"* Rev. per minute *70* Point of Cut off, High Pressure *Var* Low Pressure *—*

Diameter of Screw shaft *10 3/4"* Diam. of Tunnel shaft *10 1/4"* Diam. of Crank shaft journals *10 3/4"* Diam. of Crank pin *11"* size of Crank webs *built*

Diameter of screw *14'-0"* Pitch of screw *14'-6"* No. of blades *4.* state whether moveable *sol.* total surface *61 ft²*

No. of Feed pumps *two* diameter of ditto *3 1/2"* Stroke *19"* Can one be overhauled while the other is at work *yes*

No. of Bilge pumps *two* diameter of ditto *3 1/2"* Stroke *19"* Can one be overhauled while the other is at work *yes*

Where do they pump from *Bilge hold & air.*

No. of Donkey Engines *2* Size of Pumps *(6" x 3 1/2" x 8") (8" x 8")* Where do they pump from *Sea, hold & all*

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 *five* and sizes *5* Are they connected to condenser, or to circulating pump *yes.*

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 *above & 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 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 *while building*

Is the screw shaft tunnel watertight and fitted with a sluice door *yes* worked from *top platform.*

BOILERS, &c.

No. of Boilers *Two* Description *Multitubular* Material *steel* Letter (for record) *S.*

Working Pressure *160 lbs* Tested by hydraulic pressure to *320 lbs.* Date of test *27th January 1891.*

Description of superheating apparatus or steam chest *none*

Can each boiler be worked separately *yes* Can the superheater be shut off and the boiler worked separately *—*

No. of square feet of fire grate surface in each boiler *53 ft²* Description of safety valves *d. spring* No. to each boiler *two*

Area of each valve *7.07* 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 *12"* Diameter of boilers *13'-0"*

Length of boilers *10'-6"* description of riveting of shell long. seams *d. butt str.* circum. seams *d. riv lap* Thickness of shell plates *1 7/32*

Diameter of rivet holes *1 1/2" & 1 5/16"* whether punched or drilled *drilled* pitch of rivets *4 1/2" & 3 3/4"* Lap of plating *9 7/8" & 6 1/4"*

Per centage of strength of longitudinal joint *83 3/4%* working pressure of shell by rules *160 lbs* size of manholes in shell *12" x 16"*

Size of compensating rings *McNails* No. of Furnaces in each boiler *three* Description of Furnaces *Purvis*

Outside diameter *38"* length *7'-4"* thickness of plates *7/32* description of joint *welded* if rings are fitted *—*

Greatest length between rings *—* working pressure of furnace by the rules *98 lbs* combustion chamber plating, thickness, sides *9/16* back *9/16* top *9/16*

Pitch of stays to ditto, sides *7 3/4"* back *7 3/4"* top *7 3/4"* If stays are fitted with nuts or riveted heads *nuts* working pressure of plating by rules *160 lbs* Diameter of stays at smallest part *1.2"* working pressure of ditto by rules *160 lbs* end plates in steam space, thickness *1 7/16" & 1 1/2" dbl. pt.*

Pitch of stays to ditto *15"* how stays are secured *d. nuts* working pressure by rules *160 lbs* diameter of stays at smallest part *2.41"* working pressure by rules *160 lbs* Front plates at bottom, thickness *13/16* Back plates, thickness *3/4" & 7/8"*

Greatest pitch of stays *—* working pressure by rules *—* Diameter of tubes *3 1/2"* pitch of tubes *4 3/4"* thickness of tube plates, front *13/16* back *13/16* how stayed *stayed* pitch of stays *9 1/2"* width of water spaces *6"*

Diameter of Superheater or Steam chest *—* length *—* thickness of plates *—* description of longitudinal joint *—* diam. of rivet holes *—*

Pitch of rivets *—* working pressure of shell by rules *—* 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 *—* how stayed *—*

Superheater or steam chest; how connected to boiler *—*

DONKEY BOILER— Description *Circular vertical Cross tubes.*
 Made at *Birkenhead* by whom made *Carran & Co* when made *12/87* where fixed *Starhole*
 Working pressure *80 lbs* tested by hydraulic pressure to *160 lbs* No. of Certificate *863* fire grate area *26 1/2* description of safety
 valves *8* No. of safety valves *2* area of each *8 1/2* if fitted with easing gear *yes* if steam from main boilers can
 enter the donkey boiler *no* diameter of donkey boiler *7'-0"* length *14'-0"* description of riveting *long. & r. Cr. S. r.*
 Thickness of shell plates *15/32* diameter of rivet holes *1 1/8* whether punched or drilled *dr* pitch of rivets *2 1/4* lap of plating *4"*
 per centage of strength of joint *68 1/8* thickness of crown plates *9/32* stayed by *8 bar stays*
 Diameter of furnace, top *4'-9"* bottom *6'-0"* length of furnace *6'-6"* thickness of plates *19/32* description of joint *S. r. lap*
 Thickness of furnace crown plates *17/32* stayed by *same as crown shell* working pressure of shell by rules *81 lbs*
 Working pressure of furnace by rules *80 lbs* diameter of uptake *18 1/2* thickness of plates *1/2* thickness of water tubes *7/16*

SPARE GEAR. State the articles supplied:— *1 set of connecting rod top & bottom end
 bolts & nuts. 1 set of main bearing bolts & nuts. 1 set of Coupling
 bolts & nuts. 1 set of feed & bilge pump valves & nuts. bolts & assorted
 iron*

The foregoing is a correct description,
Alfred Muckelbauer Manufacturer.

General Remarks (State quality of workmanship, opinions as to class, &c. *The above mentioned
 engines and main boilers have been built under
 special survey and are of good workmanship
 and materials. They have now been forwarded
 to Leith where it is intended to have them fitted
 on board the vessel. —*

This Report forwarded to Leith Surveyor for completion
John Sanderson.
Glasgow 6.4.91

*The main engines & boilers have been fitted on board at this port (Leith). The
 vessel has now left for Sunderland & for completion. & the Sunderland survey
 have been advised by letter. W. J. Darling. Leith. 27th April. 1891.*

*Safety valves of main & donkey boilers adjusted to the
 working pressure. Spare gear examined & found in accord
 with the Rules. Several additional bed plate bolts & cross
 with bolts fitted to further secure bed plate to engine seat.
 The machinery & boilers were tried under steam & are
 in my opinion in good & safe working condition eligible
 for the notation in the Register Book of L.M.C. 4/91.*

*It is submitted that this vessel
 is eligible to have L.M.C. 7-
 recorded. W. J. Darling
 6.8.91*

The amount of Entry Fee .. £ 2 : 0 : 0
 Special £ 29 : 2 : 0
 Donkey Boiler Fee £ - : - : -
 Certificate (if required) .. £ - : - : -
 To be sent as per margin.
 (Travelling Expenses, if any, £)
 Applied for by *Glasgow*
 received by me, *Surveyor.*
12/818 91
14.8.91
 FRI, 7 AUG 1891

Committee's Minute
+ L.M.C. 7/91

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

