

REPORT ON MACHINERY.

8473

8443

Port of Glasgow

Received at London Office

17 APR 88

Survey held at Glasgow

Date, first Survey 19th Oct^r 1884

Last Survey April 12th 1888

(Number of Visits 51)

816.86

Tons 331.60

on the S.S. Princess Louise

Master A Reid

Built at Glasgow

By whom built J. W. Henderson

When built 1888

Engines made at Glasgow

By whom made " " "

when made 1888

Boilers made at "

By whom made " " "

when made 1888

Registered Horse Power 120

Owners M. Langlands & Sons

Port belonging to Glasgow

ENGINES, &c.—

Description of Engines Triple Expansion (3 Cranks)
 Diameter of Cylinders 14" 2 1/8" 4 1/2" Length of Stroke 33" No. of Rev. per minute 90 Point of Cut off, High Pressure Variable Low Pressure Variable
 The shafting turned & finished at the Engineers Works
 Diameter of Screw shaft 9 1/4" Diam. of Tunnel shaft 8 1/2" Diam. of Crank shaft journals 9 1/4" Diam. of Crank pin 9 3/4" size of Crank webs Built
 Pitch of screw 12 ft Pitch of screw 14 ft No. of blades 4 state whether moveable solid surface 48.3 ft
 pumps Two diameter of ditto 2 1/2" Stroke 20" Can one be overhauled while the other is at work Yes
 pumps Two diameter of ditto 2 1/2" Stroke 20" Can one be overhauled while the other is at work Yes
 pump from All Compartments
 Engines Two Size of Pumps 4 1/2" x 2 1/2" x 5" Stroke Where do they pump from Bilges, Sea Astwell &

Exhaustion pipes fitted with roses Yes Are the roses always accessible Yes Are the sluices on Engine room bulkheads always accessible Yes
 Connections One and sizes 4" Are they connected to condenser, or to circulating pump To Circulating
 worked Key Levers
 with the sea direct on the skin of the ship Yes Are they Valves or Cocks Both
 Presently 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 Below
 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
 tried through the bunkers Bilge & Tank pipes to fore hold How are they protected Wood casing
 valves, and pumps in connection with the machinery at " at all times Yes
 , and valves arranged so as to prevent an unintentional connection between the sea and the bilges Yes
 tube, propeller, screw shaft, and all connections examined in a dock On ship before being launched
 tunnel watertight Yes and fitted with a sluice door Yes worked from Upper platform

Number One Description Round. Single end Whether Steel or Iron Steel
 Weight 160 lbs Tested by hydraulic pressure to 320 lbs Date of test 12th March 1888

Superheating apparatus or steam chest None
 Can be worked separately — Can the superheater be shut off and the boiler worked separately —
 Area of fire grate surface in each boiler 60 ft² Description of safety valves Direct Spring No. to each boiler Two
 Diameter 4" Are they fitted with easing gear Yes No. of safety valves to superheater — Area of each valve —
 with easing gear — Smallest distance between boilers and bunkers or woodwork 9" Diameter of boilers 14" 2"
 description of riveting of shell long. seams Double straps circum. seams Double riveted Thickness of shell plates 1 1/2"
 rivet holes 1 1/16" whether punched or drilled Drilled pitch of rivets 8 1/2" Lap of plating Straps 2 1/2"
 Working pressure of longitudinal joint 84.5 lb working pressure of shell by rules 165 lbs size of manholes in shell 16" x 12"
 compensating rings Stamp plate 24" x 28" x 1 1/8" No. of furnaces in each boiler Three
 side diameter 3" 3/4" length, top 4" 3" bottom 10" 3" thickness of plates 1 1/16" description of joint welded if rings are fitted —
 Greatest length between rings — working pressure of furnace by the rules 185 lbs combustion chamber plating, thickness, sides 9/16" back 9/16" top 1/32"
 Pitch of stays to ditto, sides 4 x 4 1/2" back 6 1/2 x 6 1/2" top 6 1/2 x 7 1/4" stays are fitted with nuts or riveted heads Nuts working pressure of plating by rules 140 lbs
 Diameter of stays at smallest part 1 1/2" x 1 3/4" working pressure of ditto by rules 145 lbs plates in steam space, thickness 1 1/16" doubling plates
 Pitch of stays to ditto 1 1/2" x 1 1/2" how stays are secured by double nuts working pressure by rules 160 lbs diameter of stays at smallest part 2 1/2" = 3.98 area working pressure by rules 140 lbs Front plates at bottom, thickness 1 1/16" Back plates, thickness 1 1/16" x 1 1/16"
 Greatest pitch of stays 11" x 6 1/8" working pressure by rules 160 lbs Diameter of tubes 3 1/2" pitch of tubes 4 1/4" x 4 3/4" thickness of plates, front 1 1/16" back 1 1/16" how stayed by tubes pitch of stays 15" x 9 1/2" width of water spaces 4"
 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 —

Form No. 8-9100-17/87-6-P. & S. Transfer Line

8473 2/2

DONKEY BOILER— Description *Vertical (4 Cross tubes)*
 Made by *David Henderson* by whom made *at Glasgow* when made *1888* where fixed *in St. Kehon*
 Working pressure *60 lbs* tested by hydraulic pressure to *120 lbs* No. of Certificate *1916* fire grate area *20 1/2* description of
 valves *Direct Spring* No. of safety valves *Two* area of each *5.4"* if fitted with easing gear *Yes* if steam from main boiler
 enter the donkey boiler *No* diameter of donkey boiler *6'-3"* length *11 1/2* description of riveting *Double riveted*
 Thickness of shell plates *3/16"* diameter of rivet holes *1 3/16"* whether punched or drilled *Drilled* pitch of rivets *2 3/4"* lap of plating *4*
 per centage of strength of joint *70-45%* thickness of crown plates *9/16"* stayed by *Stays 1 1/8" dia + Uptake*
 Diameter of furnace, top *4'-8"* bottom *5'-8"* length of furnace *6'-1 1/2"* thickness of plates *3/16"* description of joint *welded*
 Thickness of furnace crown plates *8/16"* stayed by *as above* working pressure of shell by rules *60*
 Working pressure of furnace by rules *60 lbs* diameter of uptake *15"* thickness of plates *3/16"* thickness of water tubes *3/16"*

SPARE GEAR. State the articles supplied: *On set of valves for all the pumps Air Circulating, Feed & Bilge with seats, 1 Check valve, and one set of rubber joints for boiler doors*

The foregoing is a correct description,
David Henderson Manufacturer.

General Remarks (State quality of workmanship, opinions as to class, &c. *These Engines and Boilers are of good workmanship and materials and are in good order and safe working condition and eligible opinion to be noted in the Register Book* Log
C. 4/88

This is to certify that the above mentioned
 + time 4 8/16 1/8

The amount of Entry Fee .. £ *2* : v : - received by me,
 Special .. £ *18* : v : -
 Donkey Boiler Fee .. £ v : v : -
 Certificate (if required) .. £ v : v : - *16/4/1888*
 To be sent as per margin.

Committee's Minute **FRIDAY 20 APRIL 1888**
+ LME 4/88

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

Clyde District
 Lloyd's Register Foundation