

# REPORT ON MACHINERY.

No. 22428

Port of Glasgow

Received at London Office 17 JAN 1905

No. in Survey held at Glasgow

Date, first Survey 4 July

Last Survey 29 Dec 1902

g. Book.

(Number of Visits 14)

on the Steel S.S. "Glenpark"

Tons }  
Gross  
Net

Master Built at Glasgow

By whom built Messrs Geo. Brown & Co

When built 1904

Engines made at Glasgow

By whom made Messrs Ross & Duncan (631.)

when made 1904

Boilers made at do

By whom made do (1010.)

when made do

Registered Horse Power 99

Owners Messrs J. & J. Senholm

Port belonging to Glasgow

Net Horse Power as per Section 28 107

Is Refrigerating Machinery fitted for cargo purposes No

Is Electric Light fitted No

## ENGINES, &c.—Description of Engines

Triple Expansion

No. of Cylinders Three

No. of Cranks 3

Dia. of Cylinders 16 : 26 : 44

Length of Stroke 33"

Revs. per minute 70

Dia. of Screw shaft as per rule 9.28

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

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 Yes.

If two

boilers are fitted, is the shaft lapped or protected between the liners ✓

Length of stern bush 3' 4"

Dia. of Tunnel shaft as per rule 8.4

Dia. of Crank shaft journals as per rule 8.4

Dia. of Crank pin 8.2

Size of Crank webs 5 5/8 x 12 1/2

Dia. of thrust shaft under

collars 8 1/2

Dia. of screw 11.9

Pitch of screw 15.0

No. of blades 4

State whether moveable No

Total surface 47 sq. ft.

No. of Feed pumps Two

Diameter of ditto 3"

Stroke 16 1/2"

Can one be overhauled while the other is at work Yes

No. of Bilge pumps Two

Diameter of ditto 3"

Stroke 16 1/2"

Can one be overhauled while the other is at work Yes

No. of Donkey Engines Three

Sizes of Pumps 6 x 4 1/2 x 6

Duplex Donkey Pump

No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room One 2 1/4" & two 2"

one 2 1/4" in stokehold

In Holds, &c. No 1 hold, one 2 1/4"

No 2 Two 2"

Aft hold, two 2"

No. of bilge injections 1

sizes 4"

Connected to condenser, or to circulating pump Cir. p. Is a separate donkey suction fitted in Engine room & size Yes 2 1/4"

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 None

Are all connections with the sea direct on the skin of the ship Yes

Are they

Valves or Cocks

Valves & Cocks

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 Forward bilge suction & one

aft. bilge suction. Star & side

How are they protected

Wooden casings

Are all pipes, cocks, valves, and pumps in connection with the machinery and all boiler mountings accessible at all times Yes

Yes

Are the bilge suction pipes, cocks, and valves arranged so as to prevent any communication between the sea and the bilges Yes

Yes

When were stern tube, propeller, screw shaft, and all connections examined in dry dock New vessel

Is the screw shaft tunnel watertight

Yes

Is it fitted with a watertight door Yes

worked from

Upper Eng. Rm. platform.

## BOILERS, &c.—

(Letter for record a)

Total Heating Surface of Boilers 1547.6

Is forced draft fitted

No

No. and Description of Boilers One single ended.

Working Pressure 160

Tested by hydraulic pressure to 320

Date of test 30.11.04

Can each boiler be worked separately ✓

Area of fire grate in each boiler 49.6

No. and Description of safety valves to

each boiler Two, Spring loaded

Area of each valve 6.49

Pressure to which they are adjusted 165 lb

Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork 8"

Mean dia. of boilers 14.6"

Length 10.6"

Material of shell plates Steel

Thickness 1 3/32

Range of tensile strength 28-32 T

Are they welded or flanged No

Descrip. of riveting: cir. seams O.R. lap

long. seams Tri. Riv. Straps

Diameter of rivet holes in long. seams 1 1/8"

Pitch of rivets 7 7/8" & 3 13/16"

Lap of plates or width of butt straps 1" 4 1/2" x 1 1/16" straps

Per centages of strength of longitudinal joint

plate rivets 88.2

Working pressure of shell by rules 165 lb

Size of manhole in shell 12 x 16

Size of compensating ring 7 x 1 3/32

No. and Description of Furnaces in each boiler 3 Fox's

Material Steel

Outside diameter 44 3/4

Length of plain part top

Thickness of plates bottom 9/16

Description of longitudinal joint welded

No. of strengthening rings -

Working pressure of furnace by the rules 196

Combustion chamber plates: Material Steel

Thickness: Sides 9/16

Back 9/16

Top 9/16

Bottom 1 1/16

Pitch of stays to ditto: Sides 7 1/2 x 8 1/4

Back 8 x 8 1/4

Top 7 1/2 x 7

Material of stays Iron

Diameter at smallest part 1 7/8

Area supported by each stay 7 1/2 x 7

Working pressure by rules 261

End plates in steam space:

Material Steel

Thickness 27/32

Pitch of stays 13 1/2 x 15 1/4

How are stays secured Don't nuts

Diameter at smallest part 3"

Area supported by each stay 13 1/2 x 15 1/4

Working pressure by rules 266

Material of Front plates at bottom Steel

Thickness 13/16

Greatest pitch of stays 14 1/4"

Working pressure of plate by rules 171

Diameter of tubes 3 1/2"

Pitch of tubes 5 x 4 7/8"

Material of tube plates Steel

Thickness: Front 13/16"

Back 13/16"

Mean pitch of stays 12"

Pitch across wide water spaces 15 bands 9/16

Working pressures by rules 164

Girders to Chamber tops: Material Iron

Depth and

thickness of girder at centre 7 x 1 3/2"

Length as per rule 30"

Distance apart 7"

Number and pitch of Stays in each 3 at 7 1/2"

Working pressure by rules 163

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

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

Working pressure of end plates

Area of safety valves to superheater

Are they fitted with easing gear

Lloyd's Register Foundation  
w797-0042

**DONKEY BOILER**— No. 1 Description *Vertical. Set cross tubes.*  
 Made at *Motherwell* By whom made *Messrs John Marshall & Co* When made *1904* Where fixed *Stokehold*  
 Working pressure *80 lb* tested by hydraulic pressure to *160* No. of Certificate *7284* Fire grate area *21°* Description of safety valves *One spring*  
 No. of safety valves *One* Area of each *11.04* Pressure to which they are adjusted *85 lb* If fitted with easing gear *Yes* If steam from main boiler  
 enter the donkey boiler *No* Dia. of donkey boiler *6" 0"* Length *12" 0"* Material of shell plates *Steel* Thickness *1/2"* Range of  
 strength *27 to 32 tons* Descrip. of riveting long. seams *Drab. no. lap* Dia. of rivet holes *13/16"* Whether punched or drilled *Drilled* Pitch of rivets  
 Lap of plating *4"* Per centage of strength of joint Rivets *67* Thickness of shell crown plates *5/8"* Radius of do. *6" 0"* No. of Stays to do. *7*  
 Dia. of stays. *1 5/8"* Diameter of furnace Top *5" 0"* Bottom *5" 4"* Length of furnace *7" 6"* Thickness of furnace plates *9/16"* Descrip.  
 joint *Welded* Thickness of furnace crown plates *5/8"* Stayed by *Same as shell crown* Working pressure of shell by rules *100 lb*  
 Working pressure of furnace by rules *80 lb* Diameter of uptake *16" inside* Thickness of uptake plates *1/2"* Thickness of water tubes *3/8"*

**SPARE GEAR.** State the articles supplied:— *Two crosshead bolts & two crank pin bolts. Two main bearing  
 Set of coupling bolts. Feed & bilge pump valves. Assorted iron & bolts.  
 Set piston rings for each piston. Spare propeller. Boiler & condenser tubes. Fire bars.*

The foregoing is a correct description,

*James Duncan* Manufacturer.

Dates of Survey while building  
 During progress of work in shops— *1904 July 4, Aug 4, Sept 8, 23, Oct 10, 17, 24, Nov 8, 16, 22, 24, 30, 29 Dec 1904*  
 During erection on board vessel —  
 Total No. of visits *14*

Is the approved plan of main boiler forwarded herewith *Yes*  
 " " " donkey " " " *Yes*

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

*The machinery & boiler of this vessel have been constructed under special survey & the workmanship is good. The vessel & machinery are the same as the S/S "Wellpark" (G.L. Report No 22379).*

*The machinery in my opinion renders the vessel eligible for the notation S LMC 12.04*

It is submitted that this vessel is eligible for THE RECORD *ELMC. 12.04*

*Ans.*  
*18.1.05*  
*18.1.05*

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

The amount of Entry Fee..	£ 2 : - :	When applied for,
Special .. .. .	£ 16 : 1 :	16 JAN 1905
Donkey Boiler Fee .. .	£ : : :	When received,
Travelling Expenses (if any) £	: : :	18 JAN 1905

*Arthur L. Jones*  
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute *Glasgow 16 JAN 1905*

Assigned *L.M.C. 12.04*

MACHINERY CERTIFICATE  
 WRITTEN, 17-1-05

