

## REPORT ON MACHINERY.

Port of

WEST HARTLEPOOL

Received at London Office

19

No. in Survey held at

West Hartlepool

Date, first Survey

3rd Oct. 1899

Last Survey

5th Sept. 1900

(Number of Visits 62)

Reg. Book

up on the

S.S. "Georgistan"

Master

Wall

Built at

West Hartlepool

By whom built

R. Gray &amp; Co. Ltd.

Tons

Gross 3261

Net 2092

When built

1900

Engines made at

West Hartlepool

By whom made

Central Marine Engine Works Ltd.

When made

1900

Boilers made at

As

By whom made

As

As

when made

1900

Registered Horse Power

400

Owners

Anglo Siam &amp; Persian Co. Ltd. Port belonging to

Swansea

Nom. Horse Power as per Section 28

457

Is Refrigerating Machinery fitted

No

Is Electric Light fitted

Yes

## ENGINES, &amp;c.—Description of Engines

Triple Expansion

No. of Cylinders

3

No. of Cranks

3

Dia. of Cylinders

28.43 1/2 x 42

Length of Stroke

48

Revs. per minute

65

Dia. of Screw shaft

as per rule 13.65

Lgth. of stern bush

5.3

Dia. of Tunnel shaft

as per rule 12.35

Dia. of Crank shaft journals

as per rule 13.25

Dia. of Crank pin

13.25

Size of Crank webs

8 x 18

Dia. of thrust shaft under

collars

13.5

Dia. of screw

16.3

Pitch of screw

16.0

No. of blades

4

State whether moveable

Yes

Total surface

80 sq

No. of Feed pumps

2

Diameter of ditto

4

Stroke

30"

Can one be overhauled while the other is at work

Yes

No. of Bilge pumps

2

Diameter of ditto

4 1/2

Stroke

30"

Can one be overhauled while the other is at work

Yes

No. of Donkey Engines

2

Sizes of Pumps

4 1/2 x 10 &amp; 12 x 10

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

In Engine Room

Four each 3 1/2 diam.

In Holds, &amp;c.

Nine, two 3 1/2 in each hold

and one 2 1/2 in after well connected to peak.

No. of bilge injections

1

sizes

6 1/2

Connected to condenser, or to circulating pump

Is a separate donkey suction fitted in Engine room &amp; size

Yes 3 1/2

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

True

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

L

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

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

30.8.00

Is the screw shaft tunnel watertight

Yes

Is it fitted with a watertight door

Yes

worked from

Upper platform

BOILERS, &amp;c.—

(Letter for record (S))

Total Heating Surface of Boilers

6654

Is forced draft fitted

No

No. and Description of Boilers

Two Simple ended Steel

Working Pressure

160

Tested by hydraulic pressure to

320

Date of test

18.6.00

Can each boiler be worked separately

Yes

Area of fire grate in each boiler

71 sq

No. and Description of safety valves to

each boiler

Two Spring

Area of each valve

9.62

Pressure to which they are adjusted

165

Are they fitted with easing gear

Yes

Smallest distance between boilers or uptakes and bunkers or woodwork

21"

Mean dia. of boilers

16.0

Length

12.0

Material of shell plates

Steel

Thickness

1 1/2

Range of tensile strength

27-30

Are they welded or flanged

Both

Descrip. of riveting: cir. seams

Lap &amp; full long. seams

A.P. Straps

Diameter of rivet holes in long. seams

1 3/8

Pitch of rivets

9 7/8

Lap of plates or width of butt straps

20 7/8

Per centages of strength of longitudinal joint

rivets 88.2

plate 85.23

Working pressure of shell by rules

181

Size of manhole in shell

16 x 12

Size of compensating ring

35 1/2 x 31 1/2 x 1 7/8

No. and Description of Furnaces in each boiler

4 Plain

Material

Steel

Outside diameter

40 1/2"

Length of plain part

top 7.10

bottom 7.7

Thickness of plates

crown 4.9

bottom 6.4

Description of longitudinal joint

A.P. Straps

No. of strengthening rings

1/2

Working pressure of furnace by the rules

163

Combustion chamber plates: Material

Steel

Thickness: Sides

1/8

Back

1/8

Top

1/8

Bottom

1/8

Pitch of stays to ditto: Sides

9

Back

10 1/2

Top

10"

If stays are fitted with nuts or riveted heads

True

Working pressure by rules

170

Material of stays

Steel

Diameter at smallest part

1.63

Area supported by each stay

94

Working pressure by rules

176

End plates in steam space:

Material

Steel

Thickness

1/4

Pitch of stays

2 1/4 x 16

How are stays secured

By 9 1/2

Working pressure by rules

209

Material of stays

Steel

Diameter at smallest part

2.66

Area supported by each stay

304

Working pressure by rules

162

Material of Front plates at bottom

Steel

Thickness

2 3/4

Material of Lower back plate

Steel

Thickness

2 3/4

Greatest pitch of stays

14"

Working pressure of plate by rules

177

Diameter of tubes

2 3/4

Pitch of tubes

4"

Material of tube plates

Steel

Thickness: Front

2 3/4

Back

7/8

Mean pitch of stays

As plan

Pitch across wide water spaces

13 3/4

Working pressures by rules

166

Girders to Chamber tops: Material

Steel

Depth and

thickness of girder at centre

8 3/4 x 1 1/4

Length as per rule

2.3

Distance apart

10"

Number and pitch of Stays in each

Two 9"

Working pressure by rules

170

Superheater or Steam chest; how connected to boiler

None

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

Lloyd's Register

Foundation

HPL390-0056



**DONKEY BOILER—** No. 1 Description Single ended two furnaces  
 Made at Shekton By whom made Riley Bros. When made 26.7.00 Where fixed St. Richard  
 Working pressure 80 tested by hydraulic pressure to 160 No. of Certificate 2560 Fire grate area 20.9 Description of safety valves Spring  
 No. of safety valves 2 Area of each 4.91 Pressure to which they are adjusted 80 lb If fitted with easing gear yes If steam from main boilers can enter the donkey boiler no Dia. of donkey boiler 9.0 Length 8.0 Material of shell plates Steel Thickness 1 1/2 Range of tensile strength 27.3 Descrip. of riveting long. seams Lap Riddle Dia. of rivet holes 1 1/16 Whether punched or drilled drilled Pitch of rivets 3 1/4  
 Lap of plating 6 3/8 Per centage of strength of joint 76.8 Rivets end Thickness of shell end plates 3/4 Radius of do. Pitch No. of Stays to do. 16 1/2 x 1 1/2  
 Dia. of stays. 2 1/2 Diameter of furnace Top 31 Bottom L Length of furnace 6.3 1/2 Thickness of furnace plates 1 1/2 Description of joint Welded Thickness of e. ch plates 1 1/2 Stayed by 1 1/8 Stay 7 3/4 pitch Working pressure of shell by rules 88 lb  
 Working pressure of furnace by rules 89 lb Diameter of uptake 3 1/2 Thickness of uptake plates 3/4 1 1/2 Thickness of water tubes 5/16

**SPARE GEAR.** State the articles supplied:— 2 Main bearing bolts. 2 bottom end bolts. 2 top end bolts. 1 set of shaft coupling bolts all fitted with nuts. 1 set of feed and 1 set of tip pump valves. Springs for S.P. piston. Valves for air & circulating pumps. 2 propeller blades (cast iron). Studs. nuts. bolts given.

The foregoing is a correct description,

Manufacturer.

Wm. B. Borrowman

Main Engineer & Agent

Dates of Survey while building  
 During progress of work in shops—  
 During erection on board vessel—  
 Total No. of visits

Is the approved plan of main boiler forwarded herewith yes  
 " " " donkey " " " no

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

The machinery has been specially surveyed during construction the material and workmanship good and renders the vessel eligible in my opinion to have the Record L 69.00 in the Register Book of the Society.

It is submitted that  
 this vessel is eligible for  
 THE RECORD.

+ L 69.00 F.D. Also light

17.9.00

18.9.00

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

The amount of Entry Fee. £ 3 : :  
 Special .. £ 42 : :  
 Donkey Boiler Fee .. £ : :  
 Travelling Expenses (if any) £ : :  
 When applied for, 13.9.00  
 When received, 14.9.00

Committee's Minute

TUES. 18 SEP 1900

Assigned

+ L 69.00

MACHINERY CERTIFICATE  
 WRITTEN.

Lloyd's Register  
 Foundation

Certificate (if required) to be sent to W. Hartlepool

(The Surveyor is requested not to write on or below the space for Committee's Minute.)