

## REPORT ON MACHINERY.

No. 26130

Received at London Office

TUE. JUN. 9-1914

Date of writing Report

19

When handed in at Local Office - 6 JUN 1914

Port of

Sunderland

No. in Survey held at

Sunderland

Date, First Survey

21 Aug.

Last Survey

4 June 1914

Reg. Book.

Supp 97 on the new steel S/S "BELRIDGE".

Number of Visits

Tons

Gross 7020  
Net 4420

Master

Built at

Sunderland

By whom built

Sindgaard &amp; Sons of N° 647

When built

1914

Engines made at

Sunderland

By whom made

George Black Ltd (N° 996)

when made

1914

Boilers made at

Sunderland

By whom made

George Black Ltd (N° 996)

when made

1914

Registered Horse Power

Owners Akties Tankpark (W. Wilhelmson)

Port belonging to

Tonsberg

Nom. Horse Power as per Section 28

555

Is Refrigerating Machinery fitted for cargo purposes

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

24" 45" 74"

Length of Stroke

54"

Revs. per minute

74

Dia. of Screw shaft

as per rule 15.53  
as fitted 15.53"

Material of screw shaft

Steel

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

If the liner is in more than one length are the joints burned

yes

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

-

If two

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

-

Length of stern bush

5' 2 1/2"

Dia. of Tunnel shaft

as per rule 13.94  
as fitted none

Dia. of Crank shaft journals

as per rule 14.62  
as fitted 14.74"

Dia. of Crank pin

14 3/4"

Size of Crank webs

23 1/2" x 10"

Dia. of thrust shaft under

collars

14 7/8"

Dia. of screw

18' 9"

Pitch of Screw

17' 0"

No. of Blades

4

State whether moveable

no

Total surface

108 sq ft

No. of Feed pumps

2

Diameter of ditto

8" (10 1/2" steam)

Stroke

21"

Can one be overhauled while the other is at work

yes (Weirs)

No. of Bilge pumps

2

Diameter of ditto

5"

Stroke

30"

Can one be overhauled while the other is at work

yes

No. of Donkey Engines

2 (absorber)

SIZES OF PUMPS

9 1/2 x 10 x 10

9 1/2 x 5 1/4 x 10

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

In Engine Room Three @ 3 1/2" &amp; two @ 2" in oil wells.

In Holds, &amp;c.

barghold. - 2 @ 2 1/2" - connected to ballast

In Engine Room

Three @ 3 1/2" &amp; two @ 2" in oil wells.

pump in cargo hold (forward) only.

2 @ 2 1/2" in pump room.

connected to cargo pumps only.

No. of Bilge Injections

1

sizes 7 1/2"

Connected to condenser, or to circulating pump

B.P.

Is a separate Donkey Suction fitted in Engine room &amp; size

yes. 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

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

-

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

Dates of examination of completion of fitting of Sea Connections

29-4-14

of Stern Tube

29-4-14

Screw shaft and Propeller

5-5-14

Is the Screw Shaft Tunnel watertight

none

Is it fitted with a watertight door

mach. aft

worked from

-

BOILERS, &amp;c.—(Letter for record)

(5)

Manufacturers of Steel

John Spence &amp; Sons Ltd &amp; Rheinische Stahlwerke - Duisburg

Total Heating Surface of Boilers

8150 sq ft

Is Forced Draft fitted

yes

No. and Description of Boilers

Four single ended marine

2 FORG BLS 2 AFTER BLS

Date of test

11-2-14 &amp; 25-2-14

No. of Certificate

3189 &amp; 3193

Working Pressure

180 lbs

Tested by hydraulic pressure to

360

Can each boiler be worked separately

yes

Area of fire grate in each boiler

49 sq ft

each boiler

two direct spring

Area of each valve

8.940"

Pressure to which they are adjusted

185

Are they fitted with easing gear

yes

Smallest distance between boilers or uptakes and bunkers or woodwork

1' 6"

Mean dia. of boilers

13' 9"

Length

11' 9"

Material of shell plates

steel

Thickness

1 1/16"

Range of tensile strength

29 1/2 - 33

Are the shell plates welded or flanged

no

Descrip. of riveting: cir. seams

10 R.

long. seams

10 B.S. TR

Diameter of rivet holes in long. seams

1 1/8"

Pitch of rivets

7 3/4"

Lap of plates or width of butt straps

17 1/8"

Per centages of strength of longitudinal joint

rivets 89.6  
plate 85.4

Working pressure of shell by rules

182

Size of manhole in shell

16" x 12"

Size of compensating ring

8 1/2" x 1 1/8"

No. and Description of Furnaces in each boiler

3 Morrison (low)

Material

steel

Outside diameter

3' 5 1/2"

Length of plain part

top  
bottom

Thickness of plates

crown 1 1/2"  
bottom 1 1/2"

Description of longitudinal joint

welded

No. of strengthening rings

-

Working pressure of furnace by the rules

182

Combustion chamber plates: Material

steel

Thickness: Sides

13 1/16"

Back

3/4"

Top

2 5/8"

Bottom

13 1/16"

Pitch of stays to ditto: Sides

10 3/8" x 10 3/4"

Back

10 1/4" x 9 1/8"

Top

10 1/2" x 11"

If stays are fitted with nuts or riveted heads

nuts

Working pressure by rules

183

End plates in steam space:

-

Material of stays

steel

Diameter at smallest part

2' 3/16"

Area supported by each stay

115.50"

Working pressure by rules

185

Material of stays

steel

Material of Front plates at bottom

steel

Material

steel

Thickness

1 1/2"

Pitch of stays

19 7/8" x 18"

How are stays secured

D.N.

Working pressure of plate by rules

188

Greatest pitch of stays

14 3/4" x 10 1/4"

Diameter of tubes

2 1/2"

Pitch of tubes

35 1/8" x 3 3/4"

Material of tube plates

steel

Thickness: Front

15 1/16"

Back

3/4"

Mean pitch of stays

9 5/16"

Pitch across wide water spaces

13 1/2"

Working pressures by rules

184

Girders to Chamber tops: Material

steel

Depth and

thickness of girder at centre

2 @ 9 7/8" x 1 1/8"

Length as per rule

3' 0"

Distance apart

11"

Working pressure by rules

181

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

-

Are they fitted with easing gear

-

Working pressure of end plates

Area of safety valves to superheater

-

-

Water Capacity,

Tons.

52.5

570.0

571.0



*If so, is a report now forwarded?*

*The foregoing is a correct description,*

FOR GEORGE CLARK, LIMITED

James C. Clark

*Manufacturer.*

Dates of Survey while building	{ During progress of work in shops - - }	14/3 Aug. 21 Sep. 1 2 15 25 29 Oct 14 20 23 24 27 Nov. 5 10 12 17 19 Dec. 8 16 17 19 23 24
	{ During erection on board vessel - - - }	Jan. 6 7 8 12 23 28 29 30 Feb. 5 6 11 16 20 22 25 Mar. 6 Apr. 17 18 20 22 23 28 29 May 4 5 8 11
	{ Total No. of visits	12 15 18 19 20 23 June 4. (56)

Is the approved plan of main boiler forwarded herewith *yes*

Dates of Examination of principal parts—Cylinders 8-12-13 Slides 24-12-13 Covers 12-11-13 Pistons 12-1-14 Rods 5-2-14  
Connecting rods 6-1-14 Crank shaft 19-11-13 Thrust shaft 28-1-14 Tunnel shafts 28-4-14 Screw shaft 23-4-14 Propeller 28-4-14  
Stern tube 23-4-14 Steam pipes tested 18, 19, 20-5-14 Engine and boiler seatings 22-4-14 Engines holding down bolts 15-5-14  
Completion of pumping arrangements 4-6-14 Boilers fixed 23-5-14 Engines tried under steam 23-5-14  
Main boiler safety valves adjusted 23-5-14 Thickness of adjusting washers FP, P<sub>1</sub><sup>1</sup>/<sub>2</sub>, S<sub>1</sub><sup>1</sup>/<sub>2</sub>, FS, P<sub>2</sub><sup>1</sup>/<sub>2</sub>, S<sub>2</sub><sup>1</sup>/<sub>2</sub>, AP, P<sub>3</sub><sup>1</sup>/<sub>2</sub>, S<sub>3</sub><sup>1</sup>/<sub>2</sub>, AS, P<sub>4</sub><sup>1</sup>/<sub>2</sub>, S<sub>4</sub><sup>1</sup>/<sub>2</sub>.  
Material of Crank shaft I. steel Identification Mark on Do. 114 W.S. Material of Thrust shaft I. steel Identification Mark on Do. 3493 M.B.  
Material of Tunnel shafts none Identification Marks on Do. — Material of Screw shafts I. steel Identification Marks on Do. 530-1 W.S.  
Material of Steam Pipes Lapwelded Steel, 6 @ 4 3/4" dia x 9/16", 1 @ 6 5/8" dia x 5/16" @ 100 lbs Test pressure 5400 lbs per square inch.  
Is an installation fitted for burning oil fuel yes ✓ Is the flash point of the oil to be used over 150°F. yes

Have the requirements of Section 49 of the Rules been complied with yes  
Is this machinery duplicate of a previous case yes If so, state name of vessel "La Habra" SLE Rpt. n<sup>o</sup> 26027

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

The materials and workmanship are good.  
The machinery has been made under special survey and is eligible in my opinion for classification and the records  $\times$  LMC 6.14. Fitted for oil fuel 6.14 FP above  $150^{\circ}\text{F}$ .  
The vessel is fitted with "Wireless" telegraphy.

It is submitted that  
this vessel is eligible for  
THE RECORD. + L N

Fitted for oil fuel 6.14. F.P. above 150° F.

The amount of Entry Fee	...	£	3	:	:	When applied for,
Special	...	£	47	:	15	-6 JUN 1914
Donkey Boiler Fee	...	£		:	:	When received,
Travelling Expenses (if any)	£	:		:	:	9.6.1914

Lewis Davis.  
Engineer Surveor to Lloyd's Register of British & Foreign Shipping.

## Committee's Minute

FRI. JUN. 12. 1914

*Assigned*

+ LMC 6, 14 70

Heated for Oct Fuel 6, 14 J. P. above 150° F.

**MACHINERY CERTIFICATE**  
**WRITTEN**



Lloyd's Register  
Foundation