

REPORT ON MACHINERY.

No. 27969
THU. OCT. 3. 1914

Received at London Office

Date of writing Report

19

When handed in at Local Office

19-3-14 Port of Hull

No. in Survey held at
Reg. Book.

Hull

Date, First Survey

9-3-14

Last Survey

Sep. 19th 1914

(Number of Visits 57)

apt 43 on the steel screw steamer Sumatra

Gross 5352

Net 3365

When built 1914-9

Master

Built at Hull

By whom built

Earle & Co Ltd

Engines made at

Hull

By whom made

Earle & Co Ltd

when made 1914-9

Boilers made at

Hull

By whom made

Earle & Co Ltd

when made 1914-9

Registered Horse Power

Owners Aktief. Svenska Ostasiatiska Kompani

Port belonging to Gothenburg

Nom. Horse Power as per Section 28

512

Is Refrigerating Machinery fitted for cargo purposes

no

Is Electric Light fitted

yes

ENGINES, &c.—Description of Engines

Triple Expansion

No. of Cylinders

Three

No. of Cranks

3

Dia. of Cylinders

27"-45"-75"

Length of Stroke

57"

Revs. per minute

Dia. of Screw shaft

as per rule 15.2"

Material of

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

in 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

✓

If two

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

Length of stern bush

66 3/4"

Dia. of Tunnel shaft

as per rule 13.69"

Dia. of Crank shaft journals

as per rule 14.37"

Dia. of Crank pin

15"

Size of Crank webs

9 1/2" x 22 1/2"

collars

14 3/4"

Dia. of screw

18-3"

Pitch of Screw

17-9"

No. of Blades

4

State whether moveable

yes

Total surface

1054

No. of Feed pumps

Two

Diameter of ditto

4"

Stroke

27"

Can one be overhauled while the other is at work

yes

No. of Bilge pumps

Two

Diameter of ditto

4 1/2"

Stroke

27"

Can one be overhauled while the other is at work

yes

No. of Donkey Engines

Four

SIZES OF PUMPS

8" x 5" x 8"

10" x 4" x 8"

10" x 13" x 15"

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

In Engine Room

Four 3 1/2" x 2 1/2" in tunnel well

In Holds, &c.

Two 3 1/2" in each compartment

No. of Bilge Injections

one

sizes

8 1/2"

Connected to condenser, or to circulating pump

pump

Is a separate Donkey Suction fitted in Engine room & 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

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

Forward suction

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

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

20-7-14

of Stern Tube

20-7-14

Screw shaft and Propeller

5-8-14

Is the Screw Shaft Tunnel watertight

yes

Is it fitted with a watertight door

yes

worked from

top platform

BOILERS, &c.—(Letter for record S)

Manufacturers of Steel

Phoenix & Co. Horder & Co. Horder

Total Heating Surface of Boilers

7149 sq ft

Is Forced Draft fitted

yes

No. and Description of Boilers

Three single ended

Working Pressure

18 lbs

Tested by hydraulic pressure to

360 lbs

Date of test

14-8-14

No. of Certificate

3012

Can each boiler be worked separately

yes

Area of fire grate in each boiler

63 sq ft

No. and Description of Safety Valves to

each boiler

two spring loaded

Area of each valve

8.29 sq ft

Pressure to which they are adjusted

185

Are they fitted with easing gear

yes

Smallest distance between boilers

between and bunkers

14"

Main dia. of boilers

18 3/4"

Length

11-8 3/32"

Material of shell plates

steel

Thickness

1 1/4"

Range of tensile strength

28-32

Are the shell plates welded or flanged

no

Descrip. of riveting: cir. seams

double

long. seams

L.R.B.I.

Diameter of rivet holes in long. seams

1 5/16"

Pitch of rivets

9 3/16"

Lap of plates or width of butt straps

1-7 3/4"

Per centages of strength of longitudinal joint

rivets 87.6

plate 85.7

Working pressure of shell by rules

184

Size of manhole in

end 16" x 12"

Size of compensating ring

plate Hanger

No. and Description of Furnaces in each boiler

3 Brighton

Material

steel

Outside diameter

50"

Length of plain part

top

Thickness of plates

crown 1 1/32"

bottom 1 1/32"

Description of longitudinal joint

welded

No. of strengthening rings

✓

Working pressure of furnace by the rules

189

Combustion chamber plates: Material

steel

Thickness: Sides

3/4"

Back

2 3/32"

Top

1 1/16"

Bottom

3/4"

Pitch of stays to ditto: Sides

3/4" x 8 1/2"

Back

10 1/2" x 9 1/2"

Top

9 1/4" x 8 1/2"

If stays are fitted with nuts or riveted heads

nuts

Working pressure by rules

185

Material of stays

steel

Diameter at smallest part

2 07"

Area supported by each stay

100 sq in

Working pressure by rules

186

End plates in steam space:

Material

steel

Thickness

1 1/32"

Pitch of stays

16 1/16" x 2 1/4"

How are stays secured

2 R.

Working pressure by rules

181

Material of stays

steel

Material

steel

Diameter at smallest part

6 23"

Area supported by each stay

357

Working pressure by rules

182

Material of Front plates at bottom

steel

Thickness

1 1/32"

Material of Lower back plate

steel

Thickness

1 5/16"

Greatest pitch of stays

14 1/2" x 9 1/2"

Working pressure of plate by rules

207

Diameter of tubes

3"

Pitch of tubes

4 1/4" x 4 1/4"

Material of tube plates

steel

Thickness: Front

1 1/32"

Back

7/8"

Mean pitch of stays

8 1/2"

Pitch across wide water spaces

16"

Working pressures by rules

181

Girders to Chamber tops: Material

steel

Depth and

thickness of girder at centre

9 1/2" x 1 5/8"

Length as per rule

2-10 3/32"

Distance apart

9 1/4"

Number and pitch of stays in each

Three 8 1/2"

Working pressure by rules

199

Superheater on Steam chest; how connected to boiler

in plan

Can the superheater be shut off and the boiler worked

separately

yes

separately

yes

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

If so, is a report now forwarded? ✓

The foregoing is a correct description,

SHANGHAI BUILDING ENGINEERING CO. LIMITED.

Manufacturer.

Is the approved plan of main boiler forwarded herewith yes ✓

“ ” “ donkey ” ” ” ✓

Dates of Examination of principal parts—Cylinders 22-6-14 Slides 10-7-14 Covers 15-6-14 Pistons 10-7-14 Rods 10-6-14
Crank 15-6-14 Propeller 3-7-14

Connecting rods 22-6-14 Crank shaft 17-6-14 Thrust shaft 8-6-14 Tunnel shafts 13-8-14 Screw shaft 15-7-14
 Piston rods 12-6-14 Piston pins 12-6-14 Piston pin holders 12-6-14 Piston pin holding down bolts 19-8-14

Stern tube 6-7-14 Steam pipes tested 25428-8-14 Engine and boiler seatings 10-8-14 Engines holding down bolts 17-9-14

Completion of pumping arrangements 7-9-14 Boilers fixed 25-4-14 Engines tried under steam 7-1-15
P. 2 1/2, C 1/2, P. F. P 1/2, S 1/2, 1/2, P 1/2, S 1/2

Main boiler safety valves adjusted 15~~7~~⁸/16 -9-14 Thickness of adjusting washers .04-.10 / 6 S / 16, 6 W / 16
Identification mark on D.O. 3785 A F C

Material of Crank shaft	Steel	Identification Mark on Do.
Material of Thrust shaft	Aluminum alloy	Identification Mark on Do.
Material of Piston rod	Steel	Identification Mark on Do.
Material of Piston	Aluminum alloy	Identification Mark on Do.
Material of Connecting rod	Steel	Identification Mark on Do.
Material of Flywheel	Cast iron	Identification Mark on Do.
Material of Valve gear	Steel	Identification Mark on Do.
Material of Camshaft	Steel	Identification Mark on Do.
Material of Intake valve	Steel	Identification Mark on Do.
Material of Exhaust valve	Steel	Identification Mark on Do.
Material of Rocker arm	Steel	Identification Mark on Do.
Material of Pushrod	Steel	Identification Mark on Do.
Material of Spring	Steel	Identification Mark on Do.
Material of Timing belt	Rubber	Identification Mark on Do.
Material of Timing chain	Steel	Identification Mark on Do.
Material of Timing sprocket	Steel	Identification Mark on Do.
Material of Timing guide	Steel	Identification Mark on Do.
Material of Timing tensioner	Steel	Identification Mark on Do.
Material of Timing pulley	Steel	Identification Mark on Do.
Material of Timing roller	Steel	Identification Mark on Do.
Material of Timing idler	Steel	Identification Mark on Do.
Material of Timing guide plate	Steel	Identification Mark on Do.
Material of Timing cover	Cast iron	Identification Mark on Do.
Material of Timing belt cover	Plastic	Identification Mark on Do.
Material of Timing chain cover	Cast iron	Identification Mark on Do.
Material of Timing sprocket cover	Cast iron	Identification Mark on Do.
Material of Timing guide cover	Cast iron	Identification Mark on Do.
Material of Timing tensioner cover	Cast iron	Identification Mark on Do.
Material of Timing pulley cover	Cast iron	Identification Mark on Do.
Material of Timing roller cover	Cast iron	Identification Mark on Do.
Material of Timing idler cover	Cast iron	Identification Mark on Do.
Material of Timing guide plate cover	Cast iron	Identification Mark on Do.
Material of Timing cover gasket	Graphite	Identification Mark on Do.
Material of Timing belt cover gasket	Graphite	Identification Mark on Do.
Material of Timing chain cover gasket	Graphite	Identification Mark on Do.
Material of Timing sprocket cover gasket	Graphite	Identification Mark on Do.
Material of Timing guide cover gasket	Graphite	Identification Mark on Do.
Material of Timing tensioner cover gasket	Graphite	Identification Mark on Do.
Material of Timing pulley cover gasket	Graphite	Identification Mark on Do.
Material of Timing roller cover gasket	Graphite	Identification Mark on Do.
Material of Timing idler cover gasket	Graphite	Identification Mark on Do.
Material of Timing guide plate cover gasket	Graphite	Identification Mark on Do.
Material of Timing cover bolt	Steel	Identification Mark on Do.
Material of Timing belt cover bolt	Steel	Identification Mark on Do.
Material of Timing chain cover bolt	Steel	Identification Mark on Do.
Material of Timing sprocket cover bolt	Steel	Identification Mark on Do.
Material of Timing guide cover bolt	Steel	Identification Mark on Do.
Material of Timing tensioner cover bolt	Steel	Identification Mark on Do.
Material of Timing pulley cover bolt	Steel	Identification Mark on Do.
Material of Timing roller cover bolt	Steel	Identification Mark on Do.
Material of Timing idler cover bolt	Steel	Identification Mark on Do.
Material of Timing guide plate cover bolt	Steel	Identification Mark on Do.
Material of Timing cover nut	Steel	Identification Mark on Do.
Material of Timing belt cover nut	Steel	Identification Mark on Do.
Material of Timing chain cover nut	Steel	Identification Mark on Do.
Material of Timing sprocket cover nut	Steel	Identification Mark on Do.
Material of Timing guide cover nut	Steel	Identification Mark on Do.
Material of Timing tensioner cover nut	Steel	Identification Mark on Do.
Material of Timing pulley cover nut	Steel	Identification Mark on Do.
Material of Timing roller cover nut	Steel	Identification Mark on Do.
Material of Timing idler cover nut	Steel	Identification Mark on Do.
Material of Timing guide plate cover nut	Steel	Identification Mark on Do.
Material of Timing cover washer	Steel	Identification Mark on Do.
Material of Timing belt cover washer	Steel	Identification Mark on Do.
Material of Timing chain cover washer	Steel	Identification Mark on Do.
Material of Timing sprocket cover washer	Steel	Identification Mark on Do.
Material of Timing guide cover washer	Steel	Identification Mark on Do.
Material of Timing tensioner cover washer	Steel	Identification Mark on Do.
Material of Timing pulley cover washer	Steel	Identification Mark on Do.
Material of Timing roller cover washer	Steel	Identification Mark on Do.

Material of Tunnel shafts Steel ✓ Identification Marks on Do. See Below Material of Screw shafts Steel ✓

Material of Steam Pipes *solid drawn steel* ✓ Test pressure *540-600* ✓
Oil to be used over 150°F. ✓

Is an installation fitted for burning oil fuel ☒ Is the flash point of the oil to be used over 150°F.

Have the requirements of Section 49 of the Rules been complied with. ☒

Is this machinery duplicate of a previous case? no If so, state name of vessel U.S.S. 3920 A EQ 383A

General Remarks (State quality of workmanship, opinions as to class, &c. *Thanks on tunnel maps. 3027 N. Y. C. 1880*

150 2031 A.F. 3798 A.F. 3800 A.F. 3801 A.F.

A.F.O. 3851 A.F.O. 3777 A.F.O. 3810 A.F.O. 3811

to the special survey in accordance

The Machinery of this vessel has been constructed under my

with the approved plans & the rules of this Society, the materials furnished by the

and the boiler steam pipes have been tested as above found sound tight. The

... has been properly fitted secured on board & on completion was tested

condition found satisfactory. The main boiler,

By steam under full working conditions.

superheater swapper safety valves have been changed

Order valves tested for accumulation which did not exceed 175 mm.

In my opinion the vessel is eligible for the reward + L. N. G. 944 L. N. G. 944

4. With Schmidt superheaters the valves have been adjusted

It is submitted that

527 lbs. this vessel is eligible for
TSP RECORD + 1 MC 9 14 ED. 031

THE RECORD, FLEMING, N. H.

The amount of Entry Fee ... £ 3 : 0 : When applied for, 9/10/14

Special £45 : 12 : 6 19.14 Frank A. Senger
Engineer, Surveyor to Lloyd's Register of British & Foreign Shipping

Donkey Boiler Fee ... £ : : When received, 13.1.14 13/10
Engineer Sarceyon to George & Reginald

Travelling Expenses (if any) £

Committee's Minute _____ FRI, OCT.-9, 1914 _____ © 2020

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Assigned
+ LmL 9/14
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