

REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office

MAY - 8 1940

Date of writing Report

19

When handed in at Local Office

4 MAY 1940

Port of

Sunderland.

No. in Survey held at

Sunderland

Date, First Survey

Sep. 14 '39

Last Survey

May 1

1940

Reg. Book.

on the Blue Screw Steamer "GRAIGLAS"

(Number of Visits 52)

Gross 4312

Net 2549.

Built at

Sunderland

By whom built

J. L. Thompson & Sons Ltd.

Yard No.

598

When built

1940

Engines made at

Sunderland

By whom made

G. Clark (1938) Ltd.

Engine No.

1219

When made

1940

Boilers made at

Sunderland

By whom made

G. Clark (1938) Ltd.

Boiler No.

1219

When made

1940.

Registered Horse Power

Owners

Graig Shipping Co. Ltd.

Port belonging to

Cardiff

Nom. Horse Power as per Rule

348

Is Refrigerating Machinery fitted for cargo purposes

No.

Is Electric Light fitted

Yes.

Trade for which Vessel is intended

ENGINES, &c.—Description of Engines

Triple Expansion (NEM Reheater) Popper valve

Revs. per minute

60

Dia. of Cylinders

21½" - 36" - 62"

Length of Stroke

39"

No. of Cylinders

3

No. of Cranks

3

Crank shaft, dia. of journals

as per Rule 11.98"

as fitted 12.5"

Crank pin dia.

12½"

Crank webs

Mid. length breadth 22" 5/8"

Mid. length thickness 4 5/8"

shrink

Thickness parallel to axis 8 1/8"

Thickness around eye-hole 6 1/4"

6 7/8"

Intermediate Shafts, diameter

as per Rule 11.41"

as fitted 11 3/4"

Thrust shaft, diameter at collars

as per Rule 11.98"

as fitted 12 1/2"

Tube Shafts, diameter

as per Rule

as fitted

Screw Shaft, diameter

as per Rule 12.495"

as fitted 13 1/8"

Is the

screw

shaft fitted with a continuous liner

Yes.

Bronze Liners, thickness in way of bushes

as per Rule 23/32"

as fitted

Thickness between bushes

as per Rule 21/32"

as fitted

Is the after end of the liner made watertight in the

propeller boss

Yes.

If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner

one length.

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

Yes.

shaft

No.

If so, state type

Variable

Propeller, dia.

16'-9"

Pitch

14'-9"

No. of Blades

4

Material

C.I.

whether Moveable

No.

Total Developed Surface

93.4 sq. feet

Feed Pumps worked from the Main Engines, No.

2

Diameter

3 1/4"

Stroke

22"

Can one be overhauled while the other is at work

Yes.

Bilge Pumps worked from the Main Engines, No.

2

Diameter

3 1/4"

Stroke

22"

Can one be overhauled while the other is at work

Yes.

Feed Pumps

No. and size

1 @ 10" x 12" x 12"

Pumps connected to the

Main Bilge Line

No. and size

1 @ 10" x 12" x 12"

How driven

Steam.

Ballast Pumps, No. and size

1 @ 10" x 12" x 12"

Lubricating Oil Pumps, including Spare Pump, No. and size

1

Are two independent means arranged for circulating water through the Oil Cooler

Yes.

Bilge Pumps;—In Engine and Boiler Room

3 @ 3" x 4" E.R.

Suctions, connected to both Main Bilge Pumps and Auxiliary

1 @ 2 1/2" Sunnel hull.

In Pump Room

1 @ 3" x 4" E.R.

In Holds, &c.

1 @ 2 1/2" Sunnel hull.

Main Water Circulating Pump Direct Bilge Suctions, No. and size

1 @ 6"

No. and size

1 @ 4 1/2", 1 @ 3"

Are all the Bilge Suction Pipes in holds and tunnel well fitted with strum-boxes

Yes.

Are the Bilge Suctions in the Machinery Space led from easily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges

Yes.

Are all Sea Connections fitted direct on the skin of the ship

Yes.

Are they fixed sufficiently high on the ship's side to be seen without lifting the stakehold plates

Yes.

Are they each fitted with a Discharge Valve always accessible on the plating of the vessel

Yes.

What Pipes pass through the bunkers

In: bilge Suction

What pipes pass through the deep tanks

none.

Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times

Yes.

Is the arrangement of Valves and their connections such as to prevent the possibility of water passing from the sea or from water tanks into the cargo or machinery spaces, or from one compartment to another

Yes.

Is the Shaft Tunnel watertight

Yes.

Is it fitted with a watertight door

Yes.

worked from

E.R. top plating.

MAIN BOILERS, &c.—(Letter for record S)

Total Heating Surface of Boilers

3450 sq. main

1380 sq. aux.

= 5130

Which Boilers are fitted with Forced Draft

Both main bhs.

No. and Description of Boilers

2 SB (Spt.) 1 Aux.

Which Boilers are fitted with Superheaters

Both main bhs.

IS A REPORT ON MAIN BOILERS NOW FORWARDED?

Yes.

IS A DONKEY BOILER FITTED?

Yes.

Can the donkey boiler be used for domestic purposes only

No.

PLANS. Are approved plans forwarded herewith for Shafting

Yes.

(If not state date of approval)

Superheaters

General Pumping Arrangements

Yes.

Oil fuel Burning Piping Arrangements

Yes.

SPARE GEAR.

Has the spare gear required by the Rules been supplied

Yes.

State the principal additional spare gear supplied

1 C.I. Propeller, 1 Screw Shaft, 1 Impeller Shaft for main

Circulating Pump.

Popper valve gear: H.P. 1 Valve & Seats & cages, 1 roller bearing, 1 main spring,

1 roller spring, 1 spindle & clutch for valve cage covers, 1 spindle & clutch for spring

ends. Bits for M.P.

Superheaters: One complete element for each boiler with coupling units.

Two complete connecting pipes with clamps & couplings. 50 blank washers for clamp

holes in heads.

The foregoing is a correct description.

GEORGE CLARK (1938) LTD.

A. J. Berry

Manufacturer.

DIRECTOR & GENERAL MANAGER



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Lloyd's Register Foundation

012711-012715-0048

37/ Sep. 14. Oct. 2, 6, 9, 31. Nov. 3, 8, 14, 17, 21, 24, 27. Dec. 4, 12, 15, 18, 29. 40/ Jan. 2, 5, 8, 10.
During progress of work in shops - - 16, 17, 19, 22, 24, 26, 30. Feb. 2, 5, 7, 9, 13, 16, 25, 26, 27. Mar. 1, 4, 7, 12, 13, 14, 18, 19, 21, 29. Apr. 1, 16, 25, 30.
Dates of Survey while building During erection on board vessel - - May 1
Total No. of visits 52

MR 4/1/40, 30/1/40
LP 30/1/40
HP 5/2/40
Slides 30/1/40
Covers 30/1/40
Dates of Examination of principal parts - Cylinders
Pistons 30/1/40
Piston Rods 1/3/40
Connecting rods 30/1/40
Crank shaft 29/12/39
Thrust shaft 18/12/39
Intermediate shafts 16/2/40
Tube shaft ✓
Screw shaft 26/2/40
Propeller 30/1/40
Stern tube 16/2/40, 26/2/40
Engine and boiler seatings 12/3/40
Engines holding down bolts 21/3/40
Completion of fitting sea connections 20/2/40
Completion of pumping arrangements 25/4/40
Boilers fixed 21/3/40
Main boiler safety valves adjusted 16/4/40
Thickens of adjusting washers No 232 WHF 29/12/39
Crank shaft material Ingot Steel Identification Mark No 248, 246, 293, 299, 304, 303, 306
Intermediate shafts, material Ingot Steel Identification Marks WHF 16/2/40
Screw shaft, material Ingot Steel Identification Mark No 243 WHF 26/2/40
Thrust shaft material Ingot Steel Identification Mark No 267 WHF 18/12/39
Tube shaft, material Ingot Steel Identification Mark No 267 WHF 18/12/39
Steam Pipes, material Ingot Steel Test pressure 660 lbs Date of Test 13/3/40
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 the Rules for the use of oil as fuel been complied with Yes
Is the vessel (not being an oil tanker) fitted for carrying oil as cargo No
If so, have the requirements of the Rules been complied with Not desired
If the notation for Ice Strengthening is desired, state whether the requirements in this respect have been complied with
Is this machinery duplicate of a previous case No
If so, state name of vessel

General Remarks (State quality of workmanship, opinions as to class, &c.)
This machinery has been built under Special Survey in accordance with the approved plans & the Rules of the Society.
The materials & workmanship are good.
It has been securely fitted on board the vessel & tried under steam alongside quay with satisfactory results.
It is eligible, in my opinion, to have notation.
L.M.C. 5.40 (R.H.), T.S. (CL), 2 S.B. (Spl.) 1 Aug. 220 lbs/s. F.D.
Fitted to burn oil fuel (F.P. above 150°F) 5.40.

The amount of Entry Fee ... £ 5 - -
Special ... £ 44 4 -
Donkey Boiler Fee ... £ : :
Travelling Expenses (if any) £ : :
When applied for, 7 MAY 1940
When received, 15/5/1940

Committee's Minute
Assigned L.M.C. 5.40 (R.H.), T.S. (CL), 2 S.B. (Spl.) 1 Aug. 220 lbs/s. F.D.
Fitted to burn oil fuel (F.P. above 150°F) 5.40.

Engine Surveyor to Lloyd's Register of Shipping.
16/5