

Rpt. 4b.

REPORT ON OIL ENGINE MACHINERY.

No. 94275

12 OCT 1936

Date of writing Report

19

When handed in at Local Office

9/10/36 Port of

Received at London Office

NEWCASTLE-ON-TYNE

No. in Survey held at
Reg. Book.

Newcastle

Date, First Survey

16 Jan/36

Last Survey

8 Oct 1936

Number of Visits

42

Single
on the
Triple
Screw vessel

BRITISH ENDURANCE.

Tons { Gross 8303
Net 4939

Built at

Newcastle

By whom built

Swan Hunter & Wigham Rich'd'sn

LS

Yard No. 1500

When built

1936

Engines made at

Sunderland

By whom made

W. Daxford & Sons

LS

Engine No. 190

When made

1936

Donkey Boilers made at

Newcastle

By whom made

Swan Hunter & Wigham Rich'd'sn

LS

Boiler No. 1500

When made

1936

Brake Horse Power

2850

Owners

British Tanker Co

Port belonging to

LONDON.

Nom. Horse Power as per Rule

687

Is Refrigerating Machinery fitted for cargo purposes

No

Is Electric Light fitted

Yes

Trade for which vessel is intended

Ocean going

OIL ENGINES, &c. Type of Engines *Daxford opposed piston oil engines* 2 or 4 stroke cycle *2* Single or double acting *Single*
 Maximum pressure in cylinders *40 kg/cm²* Diameter of cylinders *600 mm* Length of stroke *upper 1340 mm lower 980* No. of cylinders *4* No. of cranks *✓*
 Span of bearings, adjacent to the Crank, measured from inner edge to inner edge *25 mm* Is there a bearing between each crank *✓*
 Revolutions per minute *97* Flywheel dia. *50"* Means of ignition *Compression* Kind of fuel used *Heavy oil fuel*
 Crank Shaft, dia. of journals *as per Rule* Crank pin dia. *✓* Crank Webs *Mid. length breadth* Thickness parallel to axis *✓*
 Flywheel Shaft, diameter *as per Rule* Intermediate Shafts, diameter *as fitted* Thrust Shaft, diameter at collars *as per Rule*
 Tube Shaft, diameter *as fitted* Screw Shaft, diameter *as per Rule* Is the shaft fitted with a continuous liner *Yes*
 Bronze Liners, thickness in way of bushes *as per Rule* Thickness between bushes *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 *In 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

Tight fit

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

Is an approved Oil Gland or other appliance fitted at the after end of the tube

shaft

No

Propeller, dia.

16'9"

Pitch

13'4" max.

No. of blades

4

Material

Mang. Bronze

Whether Movable

No

Total Developed Surface

91 sq. feet

Method of reversing Engines

See Sunderland Report No. 31877 for Main Engines

Means of lubrication

non-conducting material

Lagged

If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine

Led up funnel

Cooling Water Pumps, No.

1 main Eng. driven

1 steam standby

Is the sea suction provided with an efficient strainer which can be cleared within the vessel

Yes

What special arrangements are made for dealing with cooling water if discharged into bilges

Discharges overboard.

Bilge Pumps worked from the Main Engines, No.

See Rpt on Main Engines

Can one be overhauled while the other is at work

✓

Pumps connected to the Main Bilge Line

No. and Size

1 duplex 10" x 12" x 10"

How driven

Steam

180 tons/hr

2 duplex 7" x 8" x 8"

How driven

Steam

100 tons/hr

Ballast Pumps, No. and size

one 10" x 12" x 10"

one 8" x 8" x 10"

How driven

E. Eng. driven

in E. Eng. Room

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

one 8" x 8" x 10"

How driven

Steam

one main Eng. driven

one standby Steam

8" x 7" x 18"

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

Yes

Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge

Pumps, No. and size

In Machinery Spaces

3-3 1/2, also 1-2 1/2 from E.R. Coffin dam

2-2 1/2 from fore oil gutterways

In Pump Room

Fore 2" x 4"

Mid 2" x 4"

Aft 2" x 4"

In Holds, &c.

In Fore Cargo Hold

2 of 2 1/2" and 2 of 2"

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size

2 of 6"

Are all the Bilge Suction pipes in Holds and Tunnels fitted with strum-boxes

Yes

Are the Bilge Suctions in the Machinery Spaces

Yes

led from easily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges

Yes

Are they fitted with Valves or Cocks

Yes

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

Yes

Are the Overboard Discharges above or below the deep water line

both

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

Yes

Are the Blow Off Cocks fitted with a spigot and brass covering plate

Yes

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

Yes

How are they protected

✓

What pipes pass through the bunkers

None

Have they been tested as per Rule

Yes

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

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

worked from

If a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork

Yes

Main Air Compressors, No.

Airless Injection

stages

Diameters

Stroke

Driven by

Steam Engines

Auxiliary Air Compressors, No.

2

No. of stages

3

Diameters

11 1/2 to 2 3/4"

Stroke

7"

Driven by

✓

Small Auxiliary Air Compressors, No.

✓

No. of stages

✓

Diameters

Stroke

Driven by

✓

Scavenging Air Pumps, No.

✓

Diameter

Stroke

Driven by

✓

Auxiliary Engines crank shafts, diameter

as per Rule

as fitted

In Oil Eng. See Manchester Rpt No 8648.

No. of stages

Stroke

Driven by

✓

AIR RECEIVERS:—Is each receiver, which can be isolated, fitted with a safety valve as per Rule

Yes

Is a drain fitted at the lowest part of each receiver

Yes

Can the internal surfaces of the receivers be examined and cleaned

Yes

Internal diameter

thickness

High Pressure Air Receivers, No.

None

Airless Eng.

Capacity of each

Internal diameter

thickness

Working pressure

by Rules

Actual

1/32"

Seamless, lap welded or riveted longitudinal joint

✓

Material

Range of tensile strength

Working pressure

by Rules

Actual

602 lbs/sq

600 lbs/sq

Starting Air Receivers, No.

2

Total cubic capacity

280 cub. ft

Internal diameter

4' 1 1/2"

thickness

1/32"

Working pressure

by Rules

Actual

602 lbs/sq

600 lbs/sq

Seamless, lap welded or riveted longitudinal joint

Riveted

Material

Steel

Range of tensile strength

29-33 tons

Working pressure

by Rules

Actual

602 lbs/sq

600 lbs/sq

Seamless, lap welded or riveted longitudinal joint

Riveted

Material

Steel

Range of tensile strength

29-33 tons

Working pressure

by Rules

Actual

602 lbs/sq

600 lbs/sq

Seamless, lap welded or riveted longitudinal joint

Riveted

Material

Steel

Range of tensile strength

29-33 tons

Working pressure

by Rules

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Working pressure

by Rules

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602 lbs/sq

600 lbs/sq

IS A DONKEY BOILER FITTED? *Yes - two boilers* If so, is a report now forwarded? *Yes*
Is the donkey boiler intended to be used for domestic purposes only? *No. for Aux Pumps & Air Compressors etc*
PLANS. Are approved plans forwarded herewith for Shafting *No. 30/12/35* Receivers *10/1/36 & 7/3/36* Separate Tanks *7/3/36*
(If not, state date of approval)
Donkey Boilers *15/11/35 & 22/11/35* General Pumping Arrangements *J. E. R. 11/3/36* Oil Fuel Burning Arrangements *✓*
SPARE GEAR.

Has the spare gear required by the Rules been supplied *Yes.*
State the principal additional spare gear supplied
1 set of ahead thrust pads
1 - 6 feed T+K lubricator for cylinders
1 - Solid C. I. Propeller.
1 - Screw Shaft (C.I.) & nut.
2 - feed check valve lids
12 - boiler tubes
1 - Safety valve spring
1 - set of cages for feed water filters.
1 - nest of tubes for distilled water cooler
1 nest of tubes for oil cooler
1 set of cages or strainers for forced lubrication filters.

The foregoing is a correct description,

FOR **SWAN, HUNTER & WIGHAM RICHARDSON, LTD.**

E. J. Sweeney Manufacturer.

DIRECTOR.

Dates of Survey while building
During progress of work in shops - *1936*
During erection on board vessel - *Jan. 16. 22. 30. Feb. 10. 25. Mar. 3. 10. 18. 20. 27. Apr. 9. 14. 16. 23. 28. 30. May 4. 5. 6. 12. 13. 18. 25. 26. 28. 29.*
Total No. of visits *42.*
June 5. 11. 15. 18. 19. July 7. 13. 20. Aug. 4. 10. 12. 20. 25. 29. Oct. 2. 8.

Dates of Examination of principal parts - Cylinders *See Sunderland Rpt 31877 for main Engines*
Crank shaft *✓* Flywheel shaft *✓* Thrust shaft *✓* Intermediate shafts *12-8-36* Tube shaft *✓*
Screw shaft *7-7-36* Propeller *7-7-36* Stern tube *10-8-36* Engine seatings *7-9-36* Engines holding down bolts *7-9-36*
Completion of fitting sea connections *19-8-36* Completion of pumping arrangements *2-10-36* Engines tried under working conditions *8-10-36*
Crank shaft, Material *✓* Identification Mark *✓* Flywheel shaft, Material *✓* Identification Mark *✓*
Thrust shaft, Material *✓* Identification Mark *✓* Intermediate shafts, Material *S.M. Steel* Identification Marks
Tube shaft, Material *✓* Identification Mark *✓* Screw shaft, Material *S.M. Steel* Identification Mark *working.*
Is the flash point of the oil to be used over 150° F. *Yes ✓*
Have the requirements of the Rules for oil fuel pipes and tank fittings been complied with *Yes ✓*
Is the vessel (not being an oil tanker) fitted for carrying oil as cargo *✓* If so, have the requirements of the Rules been complied with *✓*
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 *Yes* If so, state name of vessel *British Fame, Nwc. Rpt. 94124.*
General Remarks (State quality of workmanship, opinions as to class, &c.)

The machinery of this Vessel has been constructed under special survey in accordance with the Rules and approved plans, and the materials and workmanship are good. The machinery has been satisfactorily installed on board and tested under working conditions.

The Vessel is eligible, in my opinion, for record + LMC. 10.36. Oil by. Cl.

The amount of Entry Fee .. *By Eng. Bldro* When applied for, *9.10.1936*
Special *1/5th installing* 21: 17: *9.10.1936*
2 Donkey Boilers Fee *10-2* 27: 8: *When received, 17.10.36*
2 Starting Air Recs. 4: 4: 17.10.36
Travelling Expenses (if any) *✓*

Committee's Minute **TUE. 13 OCT 1936**

Assigned

+ LMC 10.36
2 DB 150lb oil engines

A. Watt.

Engineer Surveyor to Lloyd's Register of Shipping.



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