

## REPORT ON OIL ENGINE MACHINERY.

No 33135

Received at London Office

7 JUL 1941

Date of writing Report

19

When handed in at Local Office 27 June 1941 Port of

Sunderland.

No. in Survey held at  
Reg. Book.

Sunderland

Date, First Survey 19 Nov. 40 Last Survey 25 June 1941  
Number of Visits 81Single  
on the Twin Screw vessel**"DALTON HALL"**Tons: Gross 7253  
Net 5022

Built at Sunderland

By whom built

Wm. Leasford &amp; Sons Ltd.

Yard No. 642

When built 1941.

Engines made at

Sunderland

By whom made

Wm. Leasford &amp; Sons Ltd.

Engine No. 642

When made 1941

Donkey Boilers made at

Stockton.

By whom made

Stockton Chem. Eng'g &amp; Riley Bldg Co.

Boiler No. 6465

When made 1941.

Brake Horse Power 2500

Owners

West Hantspool Ste. Nav. Co. Ltd.

Port belonging to

W. Hantspool

Nom. Horse Power as per Rule 516

Is Refrigerating Machinery fitted for cargo purposes

No.

Is Electric Light fitted

Yes.

Trade for which vessel is intended

**OIL ENGINES, &c.** Type of Engines *Opened from air line injection 2 or 4 stroke cycle 2* Single or double acting *Single*

Maximum pressure in cylinders *540 lbs/sq. in.* Diameter of cylinders *600 in.* Length of stroke *Upper 980 in.* No. of cylinders *3* No. of cranks *3 (3 throws)*

Mean Indicated Pressure *88 lbs/sq. in.* *Lower 1340 in.* Between each 3 throws.

Span of bearings, adjacent to the Crank, measured from inner edge to inner edge *940 in.* Is there a bearing between each crank

Revolutions per minute *108* Flywheel dia. *F. 2300 in.* Weight *F. 5 1/2 tons.* Means of ignition *Compression* Kind of fuel used *✓*

Crank Shaft, *Solid forged* dia. of journals *as per Rule 418 in.* as fitted *450 in.* Crank pin dia. *450 in.* Crank Webs *as per Rule 308 in.* Mid. length breadth *650 in.* Thickness parallel to axis *255 in.*

Flywheel Shaft, diameter *as per Rule 418 in.* as fitted *450 in.* Intermediate Shafts, diameter *as per Rule 365 in.* as fitted *341 in.* Thrust Shaft, diameter at collars *as per Rule 418 in.* as fitted *450 in.*

Tube Shaft, diameter *as per Rule 18 in.* as fitted *21 1/2 in.* Is the *shaft* fitted with a continuous liner *Yes.*

Bronze Liners, thickness in way of bushes *as per Rule 13 1/2 in.* as fitted *16 3/4 in.* 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 *no.* Is an approved Oil Gland or other appliance fitted at the after end of the tube shaft *no.* If so, state type *✓*

Propeller, dia. *15' 9" 10' 4" & 11' 9"* Pitch *✓* No. of blades *4* Material *Bronze* whether Moveable *no.* Total Developed Surface *90* sq. feet

Method of reversing Engines *Hand lever* Is a governor or other arrangement fitted to prevent racing of the engine when detached *Yes.* Means of lubrication *and forced.* Thickness of cylinder liners *25 in.* Are the cylinders fitted with safety valves *Yes.* Are the exhaust pipes and silencers water cooled or lagged with non-conducting material *Yes.* If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine *one engine down*

Cooling Water Pumps, No. *one steam driven* Is the sea suction provided with an efficient strainer which can be cleared within the vessel *(F.M. Cooling)*

Bilge Pumps worked from the Main Engines, No. *none* Diameter *1 @ 5 1/2" x 6" x 15"* Stroke *Simplex.* Can one be overhauled while the other is at work *8 Ballast Pumps (see 14/7/41)*

Pumps connected to the Main Bilge Line *No. and Size 1 @ 5 1/2" x 6" x 15"* How driven *Steam*

Is the cooling water led to the bilges *no.* If so, state what special arrangements are made to deal with this water in addition to the ordinary bilge pumping arrangements *✓*

Ballast Pumps, No. and size *1 @ 12 1/2" x 14" x 24"* Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size *1 engine driven 8 5/8" x 6 1/2" in.*

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 *4 @ 3" in E.R.* In Pump Room *✓*

In Holds, &c. *N°1. 3" φ 18. N°2. 3 1/2" φ 18. N°3 (Leak Tank) 3 1/2" φ 18. N°4. 3" φ 18. N°5. 3 1/2" (aft.)*

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size *1 @ 8" (Ballast pump), 1 @ 5"*

Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes *Yes.* Are the Bilge Suctions in the Machinery Spaces *Yes.*

Are all Sea Connections fitted direct on the skin of the ship *Yes.* Are they fitted with Valves or Cocks *Both*

Are they fixed sufficiently high on the ship's side to be seen without lifting the platform plate *Yes.* Are the Overboard Discharges above or below the deep water line *Below:*

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 pass through the bunkers *phone.* How are they protected *✓*

What pipes pass through the deep tanks *For bilge Suctions* Have they been tested as per Rule *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 it fitted with a watertight door *no (Bulkhead)* 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 *✓*

Main Air Compressors, No. *Two.* No. of stages *3.* Diameters *11 1/2" 11 1/2" 9 1/2", 23 1/2"* Stroke *6 1/2"* Driven by *Steam engine 11 1/2" x 6 1/2"*

Auxiliary Air Compressors, No. *✓* No. of stages *✓* Diameters *✓* Stroke *✓* Driven by *✓*

Small Auxiliary Air Compressors, No. *✓* No. of stages *✓* Diameters *✓* Stroke *✓* Driven by *✓*

What provision is made for first Charging the Air Receivers *(Steam driven Compressors).*

Scavenging Air Pumps, No. *One* Diameter *1400 in.* Stroke *610 in.* Driven by *Levers from main engine.*

Auxiliary Engines crank shafts, diameter *as per Rule* No. *✓* Position *✓*

Have the Auxiliary Engines been constructed under special survey *✓* Is a report sent herewith *✓*



AIR RECEIVERS: - Have they been made under survey

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

Can the internal surfaces of the receivers be examined and cleaned

Injection Air Receivers, No.

Cubic capacity of each

Internal diameter

thickness

Seamless, lap welded or riveted longitudinal joint

Material

Range of tensile strength

Working pressure by Rules

Starting Air Receivers, No.

Total cubic capacity

Internal diameter

thickness

Seamless, lap welded or riveted longitudinal joint

Material

Range of tensile strength

Working pressure by Rules

IS A DONKEY BOILER FITTED?

Is the donkey boiler intended to be used for domestic purposes only

PLANS. Are approved plans forwarded herewith for Shafting

(If not, state date of approval)

Donkey Boilers

General Pumping Arrangements

Pumping Arrangements in Machinery Space

Oil Fuel Burning Arrangements

SPARE GEAR.

Has the spare gear required by the Rules been supplied

State the principal additional spare gear supplied

1 C.I. Propeller, 1 Cyph. line & jacket. Complete, 1 main piston head with rings, 24 main piston rings, 4 fuel valves complete, 8 spray plugs, 2 Se & Centre top & bottom end bearing bolts & nuts, 1 N.R. air starting valve, 1 Cyph. relief 4 Scavenge pump valve 1/2 dies, 1 fuel pump body with std. 8 hole, bell crank lever & valve tappet, 6 rubber hoses for piston cooling water service, 1 roller chain for camshaft drive.

The foregoing is correct description.

W. H. F.

Manufacturer.

Dates of Survey while building  
During progress of work in shops - 40/ Nov. 19, Dec. 10, 13, 16, 17, 19, 26, 41/ Jan. 2, 3, 6, 7, 8, 9, 14, 15, 22, 23, 24, 27, 30, Feb. 4, 5, 7, 13, 24, 25, 27, 28, Mar. 4, 6, 7, 11, 12, 13, 19, 24, 25, 31, Apr. 1, 2, 3, 7, 8, 17, 18, 22, 23, 25, 29, 30, May 1, 2, 5, 6, 7, 8, 9, 12, 13, 14, 15, 16, 21, 22, 27, 28, 30, June 2, 6, 7, 10, 11, 13, 16, 17, 18, 19, 22, 25, 28, 31  
Total No. of visits 81

Dates of Examination of principal parts - Cylinders 10/3/41 Covers 1/4/41 Pistons 22/4/41 Rods 22/4/41 Connecting rods 9/5/41  
Crank shaft 13/2/41 Flywheel shaft as crank Thrust shaft as crank Intermediate shafts 25/4/41 Tube shaft 13/6/41  
Screw shaft 6/3/41 Propeller 6/3/41 Stern tube 16/12/40 Engine sealings (Dank top) Engines holding down bolts 19/6/41  
Completion of fitting sea connections 14/12/40 Completion of pumping arrangements 25/6/41 Engines tried under working conditions 19/6/41  
Crank shaft, Material Ingot Steel Identification Mark 13/2/41 Flywheel shaft, Material as crank Identification Mark as crank  
Thrust shaft, Material as crank Identification Mark as crank Intermediate shafts, Material Ingot Steel Identification Marks 964, 965, 966  
Tube shaft, Material as crank Identification Mark as crank Screw shaft, Material Ingot Steel Identification Mark W.H.F. 25/4  
Identification Marks on Air Receivers K 1148/9  
L 107 DS  
2069 Y  
500 LB 0 F.D. 20/1/41.

Is the flash point of the oil to be used over 150° F.

Have the requirements of the Rules for oil fuel pipes and tank fittings been complied with

Description of fire extinguishing apparatus fitted

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

If so, state name of vessel

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

Survey is 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 working conditions alongside Quays with Satisfactory results.

The two donkey boilers have also been securely fixed on board, fitted with oil fuel (F.P. above 150° F.), Section 20 of the rules has been complied with, Safety valves adjusted to working pressure in accordance with rule requirements.

The machinery is eligible in my opinion to have notation as L.M.C. 6. 41 (oil Eng.), T.S. (CL), 2 DB 120 lbs/sq.

The amount of Entry Fee .. £ 6 : When applied for, 1 JUL 1941

Special ... £ 100 : 16 : When received, 13 JUL 1941

Donkey Boiler Fee .. £ 12 : 12 : Travelling Expenses (if any) £

Committee's Minute

Assigned

2 DB-120 lbs/sq

Oil Eng. Cd.

FRI. 11 JUL 1941

© 2020 Lloyd's Register Foundation