

REPORT ON OIL ENGINE MACHINERY.

No. 19316

Received at London Office

Date of writing Report 10-1-1952 when handed in at Local Office

10-1-1952 Port of *West Hartlepool*

No. in Survey held at *West Hartlepool*

Date, First Survey 17th June, 1950, Last Survey 23rd December, 1951

Reg. Book.

Number of Visits 112.

on the *Single* / *Triple* / *Quadruple* Screw vessel

"BRITISH MAPLE"

Tons: Gross / Net

Built at *Sunderland*. By whom built *Sir James Lang & Sons Ltd.* Yard No. 792 When built 1951.

Engines made at *West Hartlepool* By whom made *Richardsons, Westgate Rd* Engine No. 3208 When made 1951.

Donkey Boilers made at *Wallsend* By whom made *N.E. Marine E. Co (1938) Ltd* Boiler No. 3190 When made 1951.

Brake Horse Power 3100. Owners *British Tanker Coy. Ltd.* Port belonging to *London*.

Nom. Horse Power as per Rule *MN. 688*. Is Refrigerating Machinery fitted for cargo purposes No. Is Electric Light fitted *Yes*.

Trade for which vessel is intended *Carrying Petroleum in bulk.*

TYPE OF ENGINES, &c. Type of Engines *NEM. Doxford Opp. piston Airless*. 2 or 4 stroke cycle 2 Single or double acting *Single*

Maximum pressure in cylinders *640 lbs.* Diameter of cylinders *600 mm* Length of stroke *2320 mm* No. of cylinders 4 No. of cranks *4 Three thro.*

Mean Indicated Pressure *85 lbs.* Span of bearings, adjacent to the Crank, measured from inner edge to inner edge *1748 (2+3 CRs)* Is there a bearing between each crank *Between each 3 thro.*

Revolutions per minute *105* Flywheel dia. *1690 mm* Weight *3.26 tons* Means of ignition *Compression* Kind of fuel used *Heavy oil or Diesel oil.*

Crank Shaft, dia. of journals *431 mm* Crank pin dia. *450 mm* Crank Webs Mid. length breadth *650 mm* Thickness parallel to axis *255 mm*

Propeller Shaft, diameter as per Rule *12.83"* Intermediate Shafts, diameter as per Rule *17.8"* Thrust Shaft, diameter at collars as per Rule *34.2 mm*

Screw Shaft, diameter as per Rule *14.18"* Is the screw shaft fitted with a continuous liner *Yes*

Bronze Liners, thickness in way of bushes as per Rule *3"* Thickness between bushes as per Rule *17.52"* Is the after end of the liner made watertight in the stern tube *Yes*

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.*

Does the liner do 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 *Yes*

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*

Length of Bearing in Stern Bush next to and supporting propeller *5'-6 1/4"*

Propeller, dia. *16'-3"* Pitch *11'-9"* No. of blades *4* Material *Bronze* whether Moveable *No* Total Developed Surface *93* sq. feet

Method of reversing Engines *Hand lever & Comp air.* Is a governor or other arrangement fitted to prevent racing of the engine *Yes* Means of lubrication *forced*

Thickness of cylinder liners *25 mm* Are the cylinders fitted with safety valves *Yes* Are the exhaust pipes and silencers water cooled or lagged with 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 *Yes*

Cooling Water Pumps, No. *1-10x10x10, 150 T.P.H.* Is the sea suction provided with an efficient strainer which can be cleared within the vessel *(FW. Cooling)*

Large Pumps worked from the Main Engines, No. *None* Diameter *Stroke* Can one be overhauled while the other is at work *Yes*

Pumps connected to the Main Bilge Line No. and Size *1. Ballast 10x12x10, 200 T.P.H.; 1 Bilge 7x8x8, 100 T.P.H.; 1 San 7x8x8, 100 T.P.H.* 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 *Yes*

Ballast Pumps, No. and size *1-10x12x10, 200 T.P.H.* Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size *1-110 mm x 510 mm, 1-8x7x7, 33 T.P.H. (Independent)*

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 *1-3 1/2" PF; 1-3 1/2" SF; 1-3 1/2" aft.* In Pump Room *2@4" aft 2@4"*

Holds, &c. *Tanker*. Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size *1-6" Starb; 1-6" aft.*

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

Are they 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 fitted with Valves or Cocks *Yes*

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

Do all pipes pass through the bunkers *Yes*. How are they protected *Yes*

Do all pipes pass through the deep tanks *Yes*. 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 *Tanker* Is the Shaft Tunnel watertight *None*. Is it fitted with a watertight door *Yes* worked from *Yes*

On 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. *2 Ind 2 Cnk*. No. of stages *3* Diameters *Stroke* Driven by *Steam*

Auxiliary Air Compressors, No. *1*. No. of stages *1* Diameters *Stroke* Driven by *125 Cft per min*

Small Auxiliary Air Compressors, No. *1*. No. of stages *1* Diameters *Stroke* Driven by *1*

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

Recharging Air Pumps, No. *Two*. Diameter *1510 mm* Stroke *510 mm* Driven by *Main Engine*

Auxiliary Engines crank shafts, diameter as per Rule *125 mm* as fitted *125 mm* No. *1* Position *1. PF & 1 SH lower platform in Eng Room.* Is a report sent herewith *Yes (Glasgow 77288)*

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AIR RECEIVERS: - Have they been made under survey *yes.* State No. of Report or Certificate *C.37006. N/C Tyn*
 Is each receiver, which can be isolated, fitted with a safety valve as per Rule *yes + relief valves on compressor discharge.*
 Can the internal surfaces of the receivers be examined and cleaned *yes* Is a drain fitted at the lowest part of each receiver *yes*
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. *2. ✓* Total cubic capacity *2x140 = 280* Internal diameter *4-1 1/2"* thickness *1 3/32"*
 Seamless, lap welded or riveted longitudinal joint *Riveted* Material *Steel* Range of tensile strength *Shell 28-32 T.T. Sudo 26-30 T.T.* Working pressure by Rules *603 lbs* Actual *600*
IS A DONKEY BOILER FITTED? *Yes 2. SE.* If so, is a report now forwarded? *yes.*
 Is the donkey boiler intended to be used for domestic purposes only *No*
PLANS. Are approved plans forwarded herewith for Shafting *yes* Receivers *yes* Separate Fuel Tanks *yes*
 (If not, state date of approval) Donkey Boilers General Pumping Arrangements Pumping Arrangements in Machinery Space *yes*
 Oil Fuel Burning Arrangements *yes* **SPARE GEAR.**
 Has the spare gear required by the Rules been supplied. *yes.*
 State the principal additional spare gear supplied

The foregoing is a correct description
 RICHARDSON, WESTGARTH & Co. LIMITED
 11, ...
 Manufacturer.

DIRECTOR
 Dates of Survey while building
 During progress of work in shops - 1950. Nov. 3-8. Dec. 5-6-13-18. 1951. Feb. 6-12. April 11-12-13-16-26. May 1-4-9-11-12. June 17-20-21-22-26-27. July 5-9-10-11-19-20-23-24-25. Aug. 7-8-9-13-20-24-29-30-31. Sept. 12-14-18-19-20. Nov. 19-20-21-22-23-24-25-26-27-28-29-30-31.
 During erection on board vessel - Dec. 14-17-22-23-24-25-26-27-28-29-30-31.
 Total No. of visits *112*
 N.W.C. VISITS: - 1950. June 14-15-16-17-18-19-20-21-22-23-24-25-26-27-28-29-30-31. Nov. 15-16-17-18-19-20-21-22-23-24-25-26-27-28-29-30-31. Dec. 13-20-21-1951. Jan. 8-10-12-14-17-22-24-25-30-31. Feb. 1-2-3-4-5-6-7-8-9-10-11-12-13-14-15-16-17-18-19-20-21-22-23-24-25-26-27-28-29-30-31. Mar. 1-2-3-4-5-6-7-8-9-10-11-12-13-14-15-16-17-18-19-20-21-22-23-24-25-26-27-28-29-30-31. Apr. 1-2-3-4-5-6-7-8-9-10-11-12-13-14-15-16-17-18-19-20-21-22-23-24-25-26-27-28-29-30-31. May 1-2-3-4-5-6-7-8-9-10-11-12-13-14-15-16-17-18-19-20-21-22-23-24-25-26-27-28-29-30-31. June 1-2-3-4-5-6-7-8-9-10-11-12-13-14-15-16-17-18-19-20-21-22-23-24-25-26-27-28-29-30-31. July 1-2-3-4-5-6-7-8-9-10-11-12-13-14-15-16-17-18-19-20-21-22-23-24-25-26-27-28-29-30-31. Aug. 1-2-3-4-5-6-7-8-9-10-11-12-13-14-15-16-17-18-19-20-21-22-23-24-25-26-27-28-29-30-31. Sept. 1-2-3-4-5-6-7-8-9-10-11-12-13-14-15-16-17-18-19-20-21-22-23-24-25-26-27-28-29-30-31. Oct. 1-2-3-4-5-6-7-8-9-10-11-12-13-14-15-16-17-18-19-20-21-22-23-24-25-26-27-28-29-30-31. Nov. 1-2-3-4-5-6-7-8-9-10-11-12-13-14-15-16-17-18-19-20-21-22-23-24-25-26-27-28-29-30-31. Dec. 1-2-3-4-5-6-7-8-9-10-11-12-13-14-15-16-17-18-19-20-21-22-23-24-25-26-27-28-29-30-31.
 Dates of Examination of principal parts - Cylinders *15-1-51* Covers *✓* Pistons *6-6-51* Rods *6-6-51* Connecting rods *15-6-51*
 Crank shaft *13-6-51* Flywheel shaft *13-6-51* Thrust shaft *13-6-51* Intermediate shafts *12-10-51* Tube shaft *✓*
 Screw shaft *W 9-5-51 S 6-12-50* Propeller *28-4-50* Stern tube *15-6-51* Engine sealings *13-11-51* Engines holding down bolts *13-11-51*
 Completion of fitting sea connections *15-6-51* Completion of pumping arrangements *14-12-51* Engines tried under working conditions *Shop 30-4-51 Quay 17-12-51 SEA 22-12-51*
 Crank shaft, Material *Steel* Identification Mark *22682.13-6-51* Flywheel shaft, Material *Steel* Identification Mark *20947-55 TA*
 Thrust shaft, Material *Steel* Identification Mark *22682.13-6-51* Intermediate shafts, Material *Steel* Identification Marks *10947-56 W. 8867. TAO. 9-5-51 S. 70947. TAO. 9-5-51*
 Tube shaft, Material *✓* Identification Mark *✓* Screw shaft, Material *Steel* Identification Mark *✓*
 Identification Marks on Air Receivers. *LLOYD'S TEST 800 lbs; WP 600 lbs; T.A.O. 21-3-51.*

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.*
 Description of fire extinguishing apparatus fitted *perforated piping for steam under engines & boilers.*
 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.) *This machinery has been built & installed in the vessel in accordance with the approved plans, Secretary's letters & the Rules of the Society. The material & workmanship are good. The machinery has been tried under normal working conditions both alongside the quay and at sea with satisfactory results. The two donkey boilers have been securely fitted on board the vessel, fitted to burn oil fuel (flash point above 150°F), and the safety valves adjusted under steam at the working pressure. The rules for pumping & piping have been complied with. The machinery of this vessel is, in our opinion eligible to have notation + LMC (oil engine) 12-51, TSCL, 2DB 150 lbs; Main engine not to be run continuously over 115 revs per min. A notice placed at controls to this effect.*
NOTE! *This engine No 3208 installed under Contract No 3190.*

The amount of Entry Fee	£ 212 : 12	When applied for,
Welded construction	£ 14 : 10	10-1-1952.
Special	£ :	
Donkey Boiler Fee	£ :	When received,
Travelling Expenses (if any)	£ :	19...

John Underwood for Self & T.A. Orde.
 Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute **FRI. 8 FEB 1952**
 Assign *+ LMC 12.51 Oil Eng. O.L. 2DB 150lb (with torsional endorsement)*
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