

## REPORT ON OIL ENGINE MACHINERY.

No 35815

Received at London Office

14 JUN 1952

Survey Report

When handed in at Local Office

9 June 1951 Port of Sunderland.

Survey held at

Sunderland

Date, First Survey 28 June 1951

Last Survey 6th June 1951

Number of Visits 88

Single  
on the ~~Twin~~ Triple  
Screw vessel

"CALTEX TANGANYIKA"

Tons Gross 8523  
Net 4809

Sunderland

By whom built Wm Leafford &amp; Sons Ld

Yard No. 484 When built 1952

made at Sunderland

By whom made Wm Leafford &amp; Sons Ld

Engine No. 484 When made 1952

Boilers made at West Hartlepool

By whom made Richardson Westgate &amp; Co Ld

Boiler No. When made

Horse Power 5150

Owners Overseas Tankship (U.K.) Ld

Port belonging to London

Horse Power as per Rule 1090

Is Refrigerating Machinery fitted for cargo purposes No.

Is Electric Light fitted Yes.

for which vessel is intended Tanker

Type of Engines Opposed piston action injection 2 or 4 stroke cycle 2 Single or double acting Single

pressure in cylinders 640 lb/sq. in. Diameter of cylinders 640 mm Length of stroke 1030 mm No. of cylinders 5 No. of cranks 5 Triple throw

rated Pressure 86 lb/sq. in. Between Each triple throw

Bearings, adjacent to the Crank, measured from inner edge to inner edge 1030 mm Is there a bearing between each crank

Revolutions per minute 108 Flywheel dia. 2499 mm Weight 1.13 tons Means of ignition Compression Kind of fuel used Heavy oil

Solid forged dia. of journals as per Rule 491 mm Crank pin dia. 520 mm Mid. length breadth 430 mm Thickness parallel to axis 290 mm

Semi built dia. of journals as fitted 520 mm Crank Webs Mid. length thickness 290 mm Thickness around eye hole 214 mm

All built as per Rule 491 mm Intermediate Shafts, diameter as per Rule 450 mm Thrust Shaft, diameter at collars as per Rule 520 mm

Shaft, diameter as fitted 520 mm Is the screw shaft fitted with a continuous liner Yes.

Screw Shaft, diameter as per Rule 481.5 mm Thickness between bushes as per Rule 14 mm Is the after end of the liner made watertight in the

liners, thickness in way of bushes as per Rule 20.5 mm 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 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

Bushes 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

If so, state type To 94' at root Length of Bearing in Stern Bush next to and supporting propeller 5' 5"

Pitch 14.19' - 14.19' No. of blades 4 Material Bronze whether Moveable No. Total Developed Surface 120 sq. feet

of reversing Engines Hand lever Is a governor or other arrangement fitted to prevent racing of the engine when disengaged Yes Means of lubrication

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

insulating 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

Water Pumps, No. Two Centrifugal 225 tons/hr Is the sea suction provided with an efficient strainer which can be cleared within the vessel (F.W. Cooling)

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

connected to the Main Bilge Line No. and Size 2 Rotary Centrifugal 80 tons/hr. 1 duplex 8" 9" 120 tons/hr.

How driven Electric motor.

Bilge 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

Cooling Pumps, No. and size 2 Centrifugal 300 tons/hr Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size 2 Screw displacement 50 tons/hr

Independent means arranged for circulating water through the Oil Cooler Yes. Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge

No. and size: 3 @ 3 1/2" in E.R. In Pump Room 2 @ 1"

Direct Power Pump Direct Suctions to the Engine Room Bilges, No. and size 1 @ 8" (S.W. Cooling Pumps) 1 @ 4" (Bilge)

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

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

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

placed 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.

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.

s pass through the bunkers Aft. Cofferdam Suction How are they protected (Heavy gauge pipe)

s pass through the deep tanks none Have they been tested as per Rule Yes.

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

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

to another (Tanker) Is the Shaft Tunnel watertight none Is it fitted with a watertight door worked from

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

Air Compressors, No. Two No. of stages Three Diameters 9-5 1/2"-3" Stroke 4" Driven by Electric motor

Auxiliary Air Compressors, No. one No. of stages Two Diameters Stroke Driven by Oil Engine.

Provision is made for first Charging the Air Receivers Hand Starting Engine as aux. Compressor

Air Pumps, No. one Diameter 1480 mm Stroke 1380 mm Driven by Crankshaft of Main Engine

Auxiliary Engines crank shafts, diameter as per Rule as fitted No. Position N°1. Port In N°2. Port Aft. N°3 (aux.) above N°1 &amp; N°2.

Auxiliary Engines been constructed under special survey Yes. Is a report sent herewith Yes.

004003-004008-0163



AIR RECEIVERS: - Have they been made under survey

Is each receiver, which can be so dated, 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

Starting Air Receivers, No.

Total cubic capacity

Internal diameter

thickness

Seamless, lap welded or riveted longitudinal joint

Material

Range of tensile strength

Working pressure

IS A DONKEY BOILER FITTED?

(3)

If so, is a report now forwarded?

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)

Receivers

Separate Fuel Tanks

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 Cyl. liner & jacket. Complete, 1 main piston head & 24 piston rings, 4 Side Conn. rod sph. ball. end bearings, 1 Cent. & 2 Side Conn. rod top end bearings, 2 Cent. & Side ball. end bearings bolts & nuts, 2 main bearings thick & thin, 1 Set coupling bolts, 6 Fuel Valves Complete, 1 Plug, 1 Air Starting air valve, 1 relief valve complete, 4 Scavenging pump 1/2 inch, 1 Fuel pump head, 1 Suct. & Del. Chambers hull valves, 1 1/2 inch & 1 inch, 1 Set pad for thrust, 3 pads for tail & inter. shaft, 1 rubber hose for upper piston cooling service, 6 link roller chain for camshaft drive, 1 Scavenging pump & 1 bronze propeller

The foregoing for and on behalf of WILLIAM DOUGLASS & SONS, LIMITED.

Wm. Douglass & Sons, Limited

Manufacturer.

Dates of Survey while building: During progress of work in shops - 1951 Jun 28 Jul 6, 9, 13, 23 Aug 13, 17, 21 Sep 17, 19, 24 Oct 5, 8, 10, 11, 12, 18, 19, 22, 23, 24, 25, 26, 29, 30, 31 Nov 1, 2, 5, 9, 12, 13, 14, 19, 20, 21, 22, 23, 24, 25, 26, 29, 30, 31 Dec 1, 2, 3, 4, 5, 6, 7, 10, 11, 12, 13, 14, 17, 18, 19, 20, 21, 24, 27, 28, 31 1951 Jan 2, 3, 4, 8, 9, 10, 15, 23 Feb 20, 21, 22, 28 Mar 6, 15 Apr 1, 10, 11, 22

Dates of Examination of principal parts - Crank shaft 28/11/51 & 4/12/51 Flywheel shaft as crank Thrust shaft as crank Intermediate shafts 23/1/52 Tube shaft -

Completion of fitting sea connections 30/10/51 Completion of pumping arrangements 6/6/52 Engines tried under working conditions 5/6/52

Crank shaft, Material Ingot Steel Identification Mark No 484 WHF Flywheel shaft, Material as crank Identification Mark as crank

Thrust shaft, Material as crank Identification Mark as crank Intermediate shafts, Material Ingot Steel Identification Mark No 23182-9 WHF

Tube shaft, Material - Identification Mark - Screw shaft, Material Ingot Steel Identification Mark No 2318 WHF

Identification Marks on Air Receivers K 2810, 2811 L R. 1094, 1098 A.C. 29/1/32

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

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

Description of fire extinguishing apparatus fitted 1 1/2 v.l. perforated pipes for steam led around E.R. & B.R. Rm. Contaminated

Is the vessel (not being an oil tanker) fitted for carrying oil as cargo (Tanker) Ylo. 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 Not desired

Is this machinery duplicate of a previous case Ylo. If so, state name of vessel CALTEX KENYA

General Remarks (State quality of workmanship, opinions as to class, &c.) This machinery has been built for Special Survey in accordance with the approved plans & the rules of the S. W.

The materials & workmanship are good. It has been securely fitted on board

the vessel & tried under full working conditions with satisfactory results

two donkey boilers have also been securely fixed on board, fitted

oil fuel (F.P. above 150° F.) & safety valves of boilers & superheaters adjusted

under steam & working pressure. The Clarkson exhaust gas boiler has

been securely fixed on board & safety valves adjusted to working pressure in

working condition. The requirements of Chap. E. Section 3. have been complied

The machinery is now eligible in our opinion to have notation

of LMC. 6.52 (oil Eng), TS (CL), 2 DB 220 lbs, 1 DB. 100 lbs. note: Engines not worked continuously

The amount of Entry Fee £ 189: 4: When applied for, JUN 13 1952

Special (100% new) £ 122: - When received, 19

Donkey Boiler Fee £ 20: -

Travelling Expenses (if any) £ : :

Committee's Minute TUES. 8 JUL 1952

Assigned + LMC 6.52 Oil Eng. (with torsional endorsement) C.L. 2 DB (WT) 220 lb DB 100 lb