

# REPORT ON OIL ENGINE MACHINERY.

No. 97941

Received at London Office 10/07/39

Writing Report 10 When handed in at Local Office 6/10/39 Port of NEWCASTLE-ON-TYNE  
in Survey held at Newcastle-on-Tyne Date, First Survey 22 April 1939 Last Survey 3/10/1939  
Book. Number of Visits 105

032 on the Single Twin Triple Quadruple Screw vessel M.V. "THIARA" Tons Gross 10364 Net 6178

at Wallsend By whom built Swan Hunter & Wigham Richardson Yard No. 1563 When built 1939

Lines made at Newcastle (St Peter) By whom made R.W. Hawthorn Leslie & Co Ltd Engine No. 3957 When made 1939

Key Boilers made at Newcastle (St Peter) By whom made R.W. Hawthorn Leslie & Co Ltd Boiler No. 3957 When made 1939

Net Horse Power 4660 Owners Anglo Saxon Petroleum Co Ltd Port belonging to London

Horse Power as per Rule 628 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

Use for which vessel is intended Ocean Going

ENGINES, &c. Type of Engines Hawthorn Workshop airless injection Supercharged 2 or 4 stroke cycle 4 Single or double acting Single  
Cylinder pressure in cylinders 700 lbs/sq in Diameter of cylinders 25 7/8" 650 mm Length of stroke 55 1/8" 1400 mm No. of cylinders 10 No. of cranks 10

Indicated Pressure 135 lbs/sq in Is there a bearing between each crank Yes  
Revolutions per minute 120 Flywheel dia. None Weight 855 mm Means of ignition Compression Kind of fuel used Diesel Oil

Crank Shaft, dia. of journals as per Rule 464 mm as fitted 475 mm Crank pin dia. 475 mm Crank Webs Mid. length breadth 900 mm Mid. length thickness 285 mm Thickness parallel to axis 273 mm Thickness around eyehole 210 mm

Intermediate Shafts, diameter as per Rule 351 mm as fitted 440 mm Thrust Shaft, diameter at collars as per Rule 369 mm as fitted 460 mm

Screw Shaft, diameter as per Rule 385 mm as fitted 440 mm Is the shaft fitted with a continuous liner Yes

Liner thickness in way of bushes as per Rule 19.4 mm as fitted 21 mm Thickness between bushes as per Rule 14.5 mm as fitted 16 mm Is the after end of the liner made watertight in the stern boss Yes

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

If liners are fitted, is the shaft lapped or protected between the liners Yes Is an approved Oil Gland or other appliance fitted at the after end of the tube Yes  
If so, state type Oil gland Length of Bearing in Stern Bush next to and supporting propeller 1547 mm

Propeller, dia. 15'-9" Pitch 6.36' No. of blades 4 Material M. Bronze Whether Moveable Solid Total Developed Surface 109 sq. feet

Method of reversing Engines Revolving Is a governor or other arrangement fitted to prevent racing of the engine Yes Means of lubrication Yes

Thickness of cylinder liners 55 mm Are the cylinders fitted with safety valves Yes Are the exhaust pipes and silencers water cooled or lagged with lagging 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 to tank  
Suction Water Pumps, No. Two (one Rotary on main engine, one Steam Centrifugal) Is the sea suction provided with an efficient strainer which can be cleared within the vessel Yes

Pumps worked from the Main Engines, No. Two Diameter Rotary Stroke - Can one be overhauled while the other is at work Yes

Pumps connected to the Main Bilge Line No. and Size Two Off 35 tons/hr & one G.P. pump 8" x 8" x 10" about 10 tons/hr How driven Main Engine & Steam

Are the bilge suction pipes in Hold and Tunnel Well fitted with strum-boxes Yes Are the Bilge Suctions in the Machinery Spaces Yes

Are the 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 plates Yes Are the Overboard Discharges above or below the deep water line Above

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

Are pipes pass through the bunkers None How are they protected Yes

Are pipes pass through the deep tanks None 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

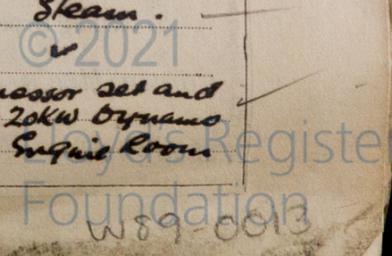
Is the arrangement of valves and their connections such as to prevent the possibility of water passing from the sea or from water tanks into the cargo or machinery spaces, or from one compartment to another Yes Is the Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from Yes

Are the wood vessels, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork Yes

Air Compressors, No. One No. of stages 2 Diameters 120 cu ft per min against 350 lbs/sq in Stroke 160 mm Driven by Diesel

Auxiliary Air Compressors, No. One No. of stages 2 Diameters 184-206 mm Stroke 160 mm Driven by Steam

Engines crank shafts, diameter as per Rule Grindy Rpt 21008 as fitted Amsterdam Rpt 15600 No. one 3 eyes Oil Eng air compressor set and one 2 eyes Kromhout Oil Eng 20kw by name Position Both on Starboard Side in Engine Room



W 89 0013

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

Can the internal surfaces of the receivers be examined and cleaned *Yes.* Is a drain fitted at the lowest part of each receiver *Yes.*

**High Pressure Air Receivers, No.** *None* Cubic capacity of each *✓* Internal diameter *✓* thickness *✓*

Seamless, lap welded or riveted longitudinal joint *✓* Material *✓* Range of tensile strength *✓* Working pressure *by Rules Actual ✓*

**Starting Air Receivers, No.** *Two* Total cubic capacity *1000 Cu ft* Internal diameter *5'-3"* thickness *1/8"*

Seamless, lap welded or riveted longitudinal joint *T.R.D.B.S.* Material *Steel* Range of tensile strength *Shell 285 32 tons* Working pressure *by Rules Actual 358 lbs*

**IS A DONKEY BOILER FITTED?** *Yes Two* If so, is a report now forwarded? *Yes.*

Is the donkey boiler intended to be used for domestic purposes only *No For Steam Auxiliaries etc.*

**PLANS.** Are approved plans forwarded herewith for Shafting *Yes* Receivers *Yes* Separate Fuel Tanks *Yes.*

Donkey Boilers *Yes* General Pumping Arrangements *Yes.* 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 *As per attached list.*

The foregoing is a correct description.  
*R. B. Johnson* Manufacturer.

Dates of Survey while building	1938		1939	
	During progress of work in shops--	During erection on board vessel--	During progress of work in shops--	During erection on board vessel--
	April 22, June 9, July 15, 18, Aug. 24, Oct. 10, Nov. 16, 21, 30, Dec. 14, Jan. 10, 18, 24, 26, 28, Feb. 1, 2, 6, 8, 10, 13, 20, 21, 23, 27, March 3, 4, 6, 9, 11, 14, 16, 17, 18, 21, 23, 27, 28, April 1, 3, 5, 6, 12, 14, 24, May 1, 3, 5, 8, 9, 10, 12, 15, 17, 19, 26, 28, June 1, 2, 7, 8, 12, 13, 14, 16, 26, 27, 29, July 3, 7, 10, 11, 12, 13, 17, 21, 28, Aug. 3, 14, 18, 22, 25, Sep. 1, 7, 8, 12, 18, 22, 25, Oct. 2, 3.			
	Total No. of visits <i>105</i>			
Dates of Examination of principal parts—	Cylinders <i>15-2-39</i>	Covers <i>15-2-39</i>	Pistons <i>8-2-39</i>	Rods <i>14-2-39</i>
	Connecting rods <i>28-1-39</i>			
Crank shaft	<i>1-6-39</i>	Flywheel shaft <i>✓</i>	Thrust shaft <i>3-8-39</i>	Intermediate shafts <i>22-5-39</i>
Screw shaft	<i>15-5-39</i>	Propeller <i>15-5-39</i>	Stern tube <i>12-6-39</i>	Engine seatings <i>14/6/39</i>
				Engines holding down bolts <i>1/9/39</i>
Completion of fitting sea connections	<i>28/7/39</i>	Completion of pumping arrangements	<i>22-9-39</i>	Engines tried under working conditions
				<i>2-10-</i>
Crank shaft, Material	<i>Steel</i>	Identification Mark	<i>14289 &amp; 14388</i>	Flywheel shaft, Material <i>✓</i>
				Identification Mark <i>✓</i>
Thrust shaft, Material	<i>Steel</i>	Identification Mark	<i>14634</i>	Intermediate shafts, Material <i>Steel</i>
				Identification Marks <i>5925</i>
Tube shaft, Material	<i>✓</i>	Identification Mark	<i>✓</i>	Screw shaft, Material <i>Steel</i>
				Identification Mark <i>5924</i>
				Spare <i>5940</i>

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 *Oil Tanker* 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 *M.V. TORINIA. Nwe Reg No 97701.*

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

*The machinery has been constructed under Special Survey in accordance with the Society's Rules and approved plans. The materials & workmanship are sound and good. The machinery was efficiently installed on board, tested and manoeuvred on completion under working conditions and found satisfactory. The machinery of this vessel is, in our opinion to be classed and to have the notation "oil engine" and records of + LMC 10,39 and TS CL.*

The amount of Entry Fee	£ 6 : -	When applied for,	<i>9 OCT 1939</i>
Special	£ 106 : 8	When received,	<i>16/10/39</i>
2 Starting Air Receivers	£ 8 - 8		
2 Donkey Boilers Fee	£ 27 : 16		
Travelling Expenses (if any)	£		

*L. Pickett + A. Watt*  
 Engineer Surveyors to Lloyd's Register of Shipping

Committee's Minute *FRI. 13 OCT 1939*

Assigned *+ LMC 10-39 Oil by 2 SB. - 1500*



Newcastle-on-Tyne

Certificate (if required) to be sent to (The Surveyors are requested not to write on or below the space for Committee's Minute.)