

REPORT ON OIL ENGINE MACHINERY.

No. 19693

Received at London Office
-2 MAY 1936
29 JUL 1936

Date of writing Report 1st May 1936 When handed in at Local Office

Port of Grimsby

No. in Survey held at Lincoln
Reg. Book.

Date, First Survey 3rd October 1935 Last Survey 30th April 1936
Number of Visits 2

Single
Twin
Triple
Quadruple
Screw vessel

M/S *Arinia*

Tons
Gross
Net

Built at *P. Glasby* By whom built *Lithgows & Co*

Yard No. *880* When built *1936*

Engines made at *Lincoln*

By whom made *Ruston & Hornsby, Ltd.*

Engine No. *78296* When made *1936*

Donkey Boilers made at

By whom made

Boiler No. When made

Brake Horse Power *60*

Owners *Anglo Saxon Petroleum Co Ltd*

Port belonging to *Londons*

Nom. Horse Power as per Rule *18.6*

Is Refrigerating Machinery fitted for cargo purposes

Is Electric Light fitted

Trade for which vessel is intended *[One Engine - Type 3VCRZ]*

OIL ENGINES, &c.—Type of Engines *Airless injection, cold starting.* 2 or 4 stroke cycle *4* Single or double acting *Single*

Maximum pressure in cylinders *700 lbs* Diameter of cylinders *8"* Length of stroke *10 3/4"* No. of cylinders *3* No. of cranks *3*

Span of bearings, adjacent to the Crank, measured from inner edge to inner edge *9 1/8"* Is there a bearing between each crank *yes*

Revolutions per minute *450* Flywheel dia. *3'-4"* Weight *19 cwt* Means of ignition *Compression* Kind of fuel used *Crude oil*

Crank Shaft, dia. of journals *as approved 6"* Crank pin dia. *4 3/4"* Crank Webs Mid. length breadth *8"* Thickness parallel to axis *shrunk*

Flywheel Shaft, diameter *as approved 6"* Intermediate Shafts, diameter *as per Rule* Thrust Shaft, diameter at collars *as per Rule*

Tube Shaft, diameter *as per Rule* Screw Shaft, diameter *as per Rule* Is the tube screw shaft fitted with a continuous liner

Bronze Liners, thickness in way of bushes *as per Rule* Thickness between bushes *as per Rule* Is the after end of the liner made watertight in the

propeller boss *If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner*

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

shaft *If so, state type* Length of Bearing in Stern Bush next to and supporting propeller

Propeller, dia. Pitch No. of blades Material whether Moveable Total Developed Surface sq. feet

Method of reversing Engines *Is a governor or other arrangement fitted to prevent racing of the engine when declutched* *yes* Means of lubrication

forced Thickness of cylinder liners *3/4"* Are the cylinders fitted with safety valves *yes* Are the exhaust pipes and silencers water cooled or lagged with

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

Cooling Water Pumps, No. *one* Is the sea suction provided with an efficient strainer which can be cleared within the vessel

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

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

Pumps connected to the Main Bilge Line No. and Size How driven

Ballast Pumps, No. and size Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size *one geared*

Are two independent means arranged for circulating water through the Oil Cooler Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge

Pumps, No. and size:—In Machinery Spaces In Pump Room

In Holds, &c. Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size

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

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

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

Are they fixed sufficiently high on the ship's side to be seen without lifting the platform plates Are the Overboard Discharges above or below the deep water line

Are they each fitted with a Discharge Valve always accessible on the plating of the vessel Are the Blow Off Cocks fitted with a spigot and brass covering plate

What pipes pass through the bunkers How are they protected

What pipes pass through the deep tanks Have they been tested as per Rule

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

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 Is the Shaft Tunnel watertight 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

Main Air Compressors, No. No. of stages Diameters Stroke Driven by

Auxiliary Air Compressors, No. No. of stages Diameters Stroke 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 Position

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

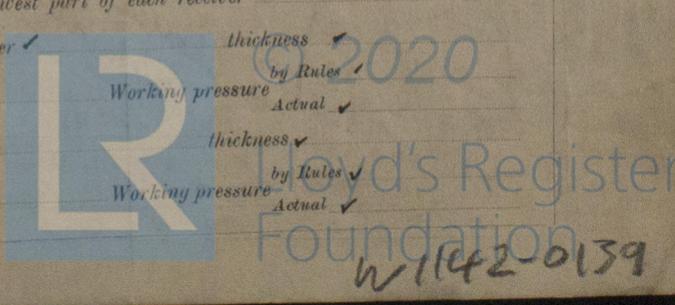
Can the internal surfaces of the receivers be examined and cleaned Is a drain fitted at the lowest part of each receiver

High Pressure Air Receivers, No. Cubic capacity of each Internal diameter thickness by Rules

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

Starting Air Receivers, No. Total cubic capacity Internal diameter thickness by Rules

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



IS A DONKEY BOILER FITTED? /

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 7.9.31.
(If not, state date of approval)

Receivers /

Separate Tanks /

Donkey Boilers /

General Pumping Arrangements /

Oil Fuel Burning Arrangements /

SPARE GEAR.

Has the spare gear required by the Rules been supplied? *yes.*

State the principal additional spare gear supplied /

Houston & Hornsby, Limited,

The foregoing is a correct description.

R. Onions 30/4/36 Manufacturer.
Oil & Gas Engine Dept

Dates of Survey while building { During progress of work in shops - - 1935 Oct 3. 17. 22. 26. 28. 31 Nov 7. 11. 28 Dec 17. 1936 Feb 24. 27 Mar 2. 12. 16. 19. 23. 26. 30 Apr 2. 6. 16. 23. 27 30
During erection on board vessel - - -
Total No. of visits *25*

Dates of Examination of principal parts—Cylinders 17.2.36. Covers 24.2.36. Pistons 17.2.36. Rods / Connecting rods 28. 11. 35.

Crank shaft 11. 11. 35. Flywheel shaft 11. 11. 35. Thrust shaft / Intermediate shafts / Tube shaft /

Screw shaft / Propeller / Stern tube / Engine sealings / Engines holding down bolts /

Completion of fitting sea connections / Completion of pumping arrangements / Engines tried under working conditions 30. 3. 36.

Crank shaft, Material *Sm. Steel* Identification Mark *Nº 3229 B.* Flywheel shaft, Material *Sm. Steel* Identification Mark *Nº 3229 B.*

Thrust shaft, Material / Identification Mark / Intermediate shafts, Material / Identification Marks /

Tube shaft, Material / Identification Mark / Screw shaft, Material / Identification Mark /

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 /

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 / *Grimby report Nº 18653, 7/1 "Inchanga"*

Is this machinery duplicate of a previous case *yes* If so, state name of vessel *same type, now 3 instead of 5 cylinders.*

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

The engine has been built under Special Survey in accordance with the Rules & Approved plans.

Running trials were carried out at the maker's works under brake load with satisfactory results.

The engine has been built to the order of Messrs Peter Brotherhood, Ltd., Peterborough, for Messrs J. G. Kincaid & Co. of Greenock.

*Now securely fitted on board
Well Gordon Muelius
Greenock*

*Fitted in
Harland & Wolff's
981 G*

*Request form attached Guss rpt No 19687
of 22/10/14. 5650 - 36/11. 1*

The amount of Entry Fee .. £	:	:	When applied for,
Special £	:	:	19
Donkey Boiler Fee £	:	:	When received,
Travelling Expenses (if any) .. £	:	:	19

charged in annual rate

H. L. Pidditch.
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

GLASGOW 28 JUL 1936

Assigned *See Guss. Rpt. No 20189*

*For Correspondence re allocation see
76. Rpt on "Arinia"*

(The Surveys are requested not to write on or below the space for Committee's Minutes.)

