Rpt. 4.

No. 4447.

REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office 10 FEB 1949

Date of writing Report 30/12/48 19 When handed in at Local Office 19 Port of AUCKLAND, N.Z.

No. in Reg. Book. 76749. Survey held at Auckland. Date, First Survey 14/2/46. Last Survey 20/12/46. 19 (Number of Visits 26.)

on the "TAIAROA".- Steam Trawler. Tons Gross 252. Net 88.

Built at AUCKLAND, N.Z. By whom built Mason Bros. Engineering Co.Ld.. Yard No. --- When built 1943.

Engines made at HUTT, N.Z. By whom made N.Z.Govt.Railways. Engine No. --- when made 1943.

Boilers made at DUKINFIELD, ENGLAND. By whom made D.Adamson & Co.Ld. Boiler No. --- when made 1943.

Registered Horse Power 480.I.H.P. Owners National Mortgage & Agency Co., New Zealand, Ld. Port belonging to DUNEDIN.

Nom. Horse Power as per Rule --- Is Refrigerating Machinery fitted for cargo purposes Yes. Is Electric Light fitted Yes.

Trade for which Vessel is intended Fishing Purposes.

ENGINES, &c.—Description of Engines Triple Expansion - Surface Condensing. Revs. per minute 105.

Dia. of Cylinders 12½"- 21"- & 35". Length of Stroke 26". No. of Cylinders 3. No. of Cranks 3.

Crank shaft, dia. of journals as per Rule --- as fitted 7⅛". Crank pin dia. 7⅛". Crank webs Mid. length breadth 10¾". Mid. length thickness 4-9/16". shrunk Thickness parallel to axis 4-9/16". Thickness around eye-hole 3-1/16".

Intermediate Shafts, diameter as per Rule --- as fitted --- **Thrust shaft,** diameter at collars as per Rule --- as fitted 7⅛".

Tube Shafts, diameter as per Rule --- as fitted --- **Screw Shaft,** diameter as per Rule --- as fitted 7⅝". Is the {tube / screw} shaft fitted with a continuous liner { --- / Yes.}

Bronze Liners, thickness in way of bushes as per Rule --- as fitted 17/32". Thickness between bushes as per Rule --- as fitted 16/32". 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 CL.

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 tapped or protected between the liners --- Is an approved **Oil Gland** or other appliance fitted at the after end of the tube shaft --- Length of Bearing in **Stern Bush** next to and supporting propeller 2'-10".

Propeller, dia. 9'-6". Pitch 11'-0". No. of Blades Four. Material Cast Iron. Whether Moveable Fixed. Total Developed Surface --- sq. feet /Solid.

Feed Pumps worked from the **Main Engines,** No. One. Diameter 2¾". Stroke 12". Can one be overhauled while the other is at work ---

Bilge Pumps worked from the **Main Engines,** No. One. Diameter 2¾". Stroke 12". Can one be overhauled while the other is at work ---

Feed Pumps { No. and size Aux.Feed.Carruthers Duplex 4½x3"x6" / How driven Vertical Steam Pump. } **Pumps** connected to the **Main Bilge Line** { No. and size General Service-(Carruthers Duplex)- / How driven 5"x4"x6".Horozontal Steam Pump. } T.M.E.

Ballast Pumps, No. and size --- **Lubricating Oil Pumps,** including Spare Pump, No. and size ---

Are two independent means arranged for circulating water through the **Oil Cooler** --- **Suctions,** connected to both Main Bilge Pumps and Auxiliary Bilge Pumps;—In Engine and Boiler Room Two x 2". In Holds, &c. Two x 2". Fore Peak Tank - One x 2".

Main Water Circulating Pump Direct Bilge Suctions, No. and size One x 3½" **Independent Power Pump Direct Suctions** to the Engine Room Bilges, No. and size Steam Ejector - 2". Are all the Bilge Suction Pipes in holds and tunnel well fitted with strum-boxes Yes.

Are the Bilge Suctions in the Machinery Space led 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, Valves & Cocks.

Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold 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.

What Pipes pass through the bunkers None. How are they protected --- ---

What pipes pass through the deep tanks D.B.Tank - Fore Peak Suction. 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 --- Is it fitted with a watertight door --- worked from ---

MAIN BOILERS, &c.—(Letter for record) Total Heating Surface of Boilers 1600 (1620) Sq.Ft.

Is Forced Draft fitted No. No. and Description of Boilers One Scotch Marine Type. Working Pressure 180lb.

IS A REPORT ON MAIN BOILERS NOW FORWARDED? Yes.

IS A DONKEY BOILER FITTED? No. If so, is a report now forwarded? --- ---

PLANS. Are approved plans forwarded herewith for Shafting --- Main Boilers --- Auxiliary Boilers --- Donkey Boilers --- (If not state date of approval)

Superheaters --- General Pumping Arrangements --- Oil fuel Burning Piping Arrangements ---

SPARE GEAR. State the articles supplied:— As per Rules.

The foregoing is a correct description,

N.Z.Railway Workshop -Hutt, N.Z. *Manufacturer.*

Exam 11/3/49

Dates of Survey while building

During progress of work in shops - -

N.Z. RAILWAYS.

During erection on board vessel - - -

Total No. of visits ---

Dates of Examination of principal parts—*Cylinders* see Rpt.9. *Slides* --- *Covers* ---

Pistons --- *Piston Rods* --- *Connecting rods* ---

Crank shaft --- *Thrust shaft* --- *Intermediate shafts* ---

Tube shaft --- *Screw shaft* --- *Propeller* ---

Stern tube --- *Engine and boiler seatings* --- *Engines holding down bolts* ---

Completion of fitting sea connections --- --- ---

Completion of pumping arrangements --- *Boilers fixed* --- *Engines tried under steam* 16/12/46. Harbour Trials- 18/12/46/.

Main boiler safety valves adjusted 12/12/46. *Thickness of adjusting washers* 3/8".

Crank shaft material Steel. *Identification Mark* --- *Thrust shaft material* Steel. *Identification Mark* ---

Intermediate shafts, material --- *Identification Marks* --- *Tube shaft, material* --- *Identification Mark* ---

Screw shaft, material Steel. *Identification Mark* --- *Steam Pipes, material* Steel. *Test pressure* 360lb. *Date of Test* 9/10/46.

Is an installation fitted for burning oil fuel Yes, per Rules. ✓ *Is the flash point of the oil to be used over 150°F.* ✓ Yes.

Have the requirements of the Rules for the use of oil as fuel been complied with Yes. ✓

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* ---

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 Steam Reciprocating Engine & Machinery as fitted in the Steam Trawler "TAIAROA". comprises the Requirements of the Society's Rules for a First Class Oil Fired Fishing Vessel:- Main Engines as described, made by the New Government Railways, have been seen in Good New Condition, workmanship sound and Materials of good quality, the Auxiliary Machinery is of Standard Make by well known Manufacturers and was supplied by the Admiralty from U.K. all as detailed in a separate list. The Boiler is also of Standard Make by first class Manufacturers and now seen in good New Condition; well Lagged, Steam Tight and fitted to Rule Requirements. All this New Machinery has been examined by me throughout as required for a Special Survey whilst being fitted for other than War Service, and is in my opinion is eligible to be Classed by the Society as requested by the Owners - with the Record of LMC.12-46. & SCREW SHAFT - CL. seen 11-46. made in the Register Book.

Certificate to be sent to

The Surveyors are requested not to write on or below the space for Committee's Minute.)

With Certificate.

The amount of Entry Fee ... £ : : Not yet Charged.

Special ... ... £ : :

Donkey Boiler Fee ... £ : :

Travelling Expenses (if any) £ : :

When applied for, ... 19.....

When received, ... 19.....

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute RL. 18 MAR 1949

Assigned LMC 12.46 S(CL) 11.46