

# REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office

Date of writing Report 2/9/29 When handed in at Local Office 2/9/29 to Port of Glasgow  
 No. in Survey held at Paisley Date, First Survey 19.7.29 Last Survey 25.7.29  
 Reg. Book. on the Twin Sc. Bucket Dredger S.S. OTAKOU (Number of Visits 23) Gross 1933 Net 995  
 Built at Paisley By whom built Messrs Fleming & Ferguson Ltd Yard No. 494 When built 1929  
 Engines made at Paisley By whom made Messrs Fleming & Ferguson Engine No. 494 when made 1929  
 Boilers made at Renfrew By whom made Messrs Babcock & Wilcox Boiler No. 6/1239 when made 1929  
 Registered Horse Power Owners Otago Harbour Board Port belonging to Dunedin  
 Nom. Horse Power as per Rule 279 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted yes  
 Trade for which Vessel is intended Dredging

**ENGINES, &c.**—Description of Engines Compound Revs. per minute 122  
 Dia. of Cylinders 20"-40" Length of Stroke 24" No. of Cylinders 4 No. of Cranks 4  
 Crank shaft, dia. of journals as per Rule 7.96" Crank pin dia. 8.25" Crank webs Mid. length breadth 15.34" Thickness parallel to axis 5 1/2"  
 as fitted 8.25" Mid. length thickness 5 1/2" shrunk Thickness around eye-hole 3 3/4"  
 Intermediate Shafts, diameter as per Rule 7.59" Thrust shaft, diameter at collars as per Rule 7.96" as fitted 8.25"  
 as fitted 7-3/4" Tube Shafts, diameter as per Rule 8.4" Is the tube shaft fitted with a continuous liner yes  
 as fitted 9.25" as fitted 9.25" Is the screw shaft fitted with a continuous liner yes  
 Screw Shaft, diameter as per Rule 8.4" as fitted 9.25" Is the after end of the liner made watertight in the propeller boss yes  
 as fitted 9/16" Thickness between bushes as per Rule 27/64" as fitted 7/16" If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner yes  
 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 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 shaft 3'-2"  
 Length of Bearing in Stern Bush next to and supporting propeller 3'-2"  
 Propeller, dia. 9'-9" Pitch 10'-3" No. of Blades 4 Material cast iron whether Moveable no Total Developed Surface 38 sq. feet  
 Feed Pumps worked from the Main Engines, No. none Diameter Stroke Can one be overhauled while the other is at work  
 Bilge Pumps worked from the Main Engines, No. none Diameter Stroke Can one be overhauled while the other is at work  
 Feed Pumps No. and size Two independent 6 1/2" x 18" Pumps connected to the Main Bilge Line No. and size One 8'-6"-8" Duplex & One 6"-6"-6" Duplex  
 How driven Steam How driven Steam  
 Ballast Pumps, No. and size One 6" Centrifugal 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 1 off 2 1/2" engine room, 2 off 2 1/2" Boiler room, 1 off 2 1/2" in oil well  
 In Holds, &c. 5 off 2 1/2" port forward compartments, 5 off 2 1/2" Starboard forward compartments  
 2 off 2 1/2" in centre compartments forward

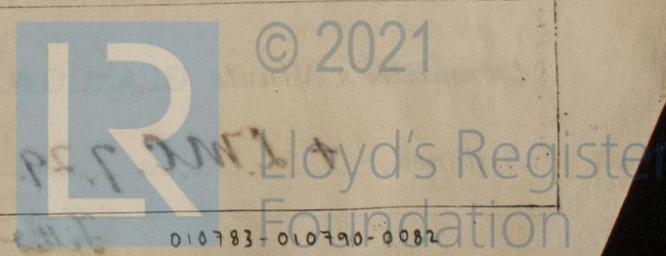
**Main Water Circulating Pump Direct Bilge Suctions, No. and size** One 3" **Independent Power Pump Direct Suctions to the Engine Room Bilges,**  
 No. and size One 3" Are all the Bilge Suction Pipes in holds and tunnel well fitted with strum-boxes  
 Are the Bilge Suctions in the Machinery Space led 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 Both yes  
 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 Bilge & F.W. suction 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 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 5) Total Heating Surface of Boilers 5250 sq. feet  
 Is Forced Draft fitted yes Induced F.D. No. and Description of Boilers 2 off Water tube B & W Type Working Pressure 130 lb.  
 IS A REPORT ON MAIN BOILERS NOW FORWARDED? yes  
 IS A DONKEY BOILER FITTED? no If so, is a report now forwarded? yes

**PLANS.** Are approved plans forwarded herewith for Shafting 5-6-28 Main Boilers yes Auxiliary-Boilers yes Donkey Boilers yes  
 Superheaters General Pumping Arrangements yes Oil fuel Burning Piping Arrangements yes

**SPARE GEAR.** State the articles supplied:—  
 Owners and Lloyds requirements

The foregoing is a correct description,  
 Fleming & Ferguson Ltd.  
 W. Fleming Manufacturer.



NOTE.—The words which do not apply should be deleted.

During progress of work in shops -- 1928 July 19. 25. Aug 21. 27. Sept 6. 14. Oct 4. 10. 22. 30. Nov 14. 20. 26. Dec 3. 6. 13. 1929  
 During erection on board vessel --- 1929 July 7. 29. Sept 13. 17. Nov 12. 19. 25. Dec 2. 5. 11. 17. 23. 30. 29.  
 Total No. of visits 43.

Dates of Examination of principal parts—Cylinders 3-12-28 6-12-28 Slides 3-12-28 Covers 3-12-28 6-12-28  
 Pistons 3-12-28 Piston Rods 22-10-28 Connecting rods 22-10-28  
 Crank shaft 20-11-28 26-11-28 Thrust shaft 29-1-29 17-4-29 Intermediate shafts 2-4-29  
 Tube shaft ✓ Screw shaft 12-3-29 Propeller 27-2-29  
 Stern tube 19-3-29 Engine and boiler seatings 4-6-29 Engines holding down bolts 4-6-29  
 Completion of fitting sea connections 10-4-29  
 Completion of pumping arrangements 15-7-29 Boilers fixed 4-6-29 Engines tried under steam 15-7-29  
 Main boiler safety valves adjusted 9-7-29 Thickness of adjusting washers 9/32" 5/16" 1/4"  
 Crank shaft material Steel Identification Mark 2560 2560 Thrust shaft material Steel Identification Mark 2765 2765  
 Intermediate shafts, material Steel Identification Marks 2765 2765 Tube shaft, material ✓ Identification Mark ✓  
 Screw shaft, material Steel Identification Mark 2765 Steam Pipes, material Copper Test pressure 260 lbs. Date of Test 29-5-29  
 Is an installation fitted for burning oil fuel yes 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 NO If so, have the requirements of the Rules been complied with ✓  
 Is this machinery duplicate of a previous case NO If so, state name of vessel ✓

**General Remarks** (State quality of workmanship, opinions as to class, &c. *These engines have been built under Special survey in accordance with the Rules and approved plans. The engines and Boilers have been properly secured on board, tried under full working condition with satisfactory results and is eligible in my opinion to have the record of: L.M.C. 7-29 T.S.C.L. Fitted for Oil Fuel 7-29 F.P. above 150°F.*)

It is submitted that this vessel is eligible for the record of **THE RECORD** + L.M.C. 7-29 T.S.C.L. W.T.B. Fitted for oil fuel 7-29 F.P. above 150°F.

A.S. 2/8/29

Glasgow

The amount of Entry Fee ... £ 4 : 0 : 0  
 Special ... 3/5 ... £ 40 : 2 : 0  
 Donkey Boiler Fee ... £ : :  
 Travelling Expenses (if any) £ : :

When applied for, 6 - AUG 1929  
 When received, 20-8-29

G. E. Murdoch  
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute **GLASGOW** 6 - AUG 1929

Assigned + L.M.C. 7.29 F.P. Fitted for oil fuel 7.29 F.P. above 150°F



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