

N.B.—If this Report is copied by copying Press, special care must be taken that the copying paper is not so much damaged as to spread the ink, or to cause it to show through to the other side.

MACHINERY:- The Machinery has been properly fitted and the Bed Plate and Holding Down Bolts as per Rule, and Collision Chocks bolted to the Engine Seating at each Corner of the Bed Plate. The Shafting has been properly lined up and all Tunnel Bearings overhauled, new Foundation Bolts throughout, and new Coupling Bolts fitted at all Couplings of Tunnel Shafting.

The Machinery was tested alongside the Wharf under working conditions, ahead and astern, and is satisfactory. At the trial run at Sea, the Main Engines ran for three hours at 200 Revs. per minute. I was present at the trial Run and I also tested the Machinery alongside the Wharf; with Air Bottles at a pressure of 350 Lbs., and Auxiliary Compressor stopped. 13 starts without trouble and a pressure of 250 Lbs. remained in the Air Bottles on completion. An Indicator showing Ahead and Astern Direction has been fitted on the Fly "heel Guard.

DATES OF EXAMINATION OF HOLD DOWN BOLTS:- 12-10-34, 16-10-34.
ENGINE SEATING:- Sept. 14th 1934 to Oct. 12th 1934.
DATES OF EXAMINATION OF ENGINES UNDER WORKING CONDITIONS:- 28th, 29th and 30th Dec. 1934.
DATES OF EXAMINATION OF TUNNEL SHAFT:- 12-10-34.
DATE OF EXAMINATION OF SCREW SHAFT:- 12-10-34.
DATE OF EXAMINATION OF PROPELLOR:- 3-11-34.
DATE OF EXAMINATION OF STERN TUBE:- 3-11-34.

The Stern Bush is 2' 10" long.
The Propellor was fitted on the Shaft on Nov. 27th 1934.

SEA CONNECTIONS:- All Sea Connections were opened out and replaced in good order and new Bolts have been fitted to the Flanges on Shell Plates. The Main Injection Valve has been moved from the Port to the Starboard Side for use with the Cooling Water System of the new Engines.

DATE ON COMPLETION OF SEA CONNECTIONS:- 30-11-34.

AIR PIPES:- The Air Pipes from the Compressor have been made according to Rule and I tested these before fitting in place by Hydraulic to 700 Lbs per sq. Inch and afterwards in place under working conditions.

FUEL PIPES:- All Fuel Pipes are of steel and I tested these in position with Joints tightened to 35Lbs. per Sq. Inch Air Pressure and afterwards under working conditions.

LUBRICATING OIL PIPES :- I tested these in position, 35Lbs per Sq. Inch Air Pressure and afterwards under working conditions.

STEAM PIPES:- I tested all new Steam Pipes in Engine Room and all the Pipes on Deck to 300 Lbs Per Sq. Inch Hydraulic before fitting and afterwards under working conditions.

LUBRICATING OIL TANKS:- These were constructed by Messrs. Andersons Ltd., electric welded throughout, E.M.F. Electrodes, and are satisfactory, and have been tested under working conditions.

PUMPS:- The Main Engines are fitted with one Double-Acting Bilge Pump, diameter 3.937", stroke 5.5".

BALLAST PUMP:- The Ballast Pump is a Mumford Duplex Steam Pump, diameter 6", stroke 6".
GENERAL SERVICE PUMP:- Steam Worthington Duplex, Diameter 4", stroke 5".

ELECTRIC GENERAL SERVICE PUMP:- Manufactured by Messrs. Andersons Ltd., single-acting Horizontal 4" diameter, 5" Stroke, Belt driven by Crompton Motor 110 Volts, 16 Amps 1400 Revs.

OIL FUEL TRANSFER PUMP:- Viking Rotary driven by Asea Motor 110 Volts 18 Amps 1400 Revs.

CONTINUATION OF REPORT NO. 1252 ON M.V. "PAKURA".

There is also a Hand Oil Transfer Pump fitted.
The Donkey Boiler is fitted with a Worthington Duplex Feed Pump and a Steam injector.

OTHER AUXILIARIES:- Auxiliary Air Compressor - Direct coupled by a Clutch to a Crompton Parkinson Generator is a 2 Stage Compressor No. 36779 by Reavell & Co., 2 Cylinders 1000 Revs. The Generator and Compressor are driven by Diesel Engine which was surveyed at Manchester as per Report No. 8151. The Compressor is marked HP Test 700Lbs.
A B LR.

OIL PURIFIERS:- One Oil Fuel Purifier and one Fuel Oil Purifier both Delaval, Belt driven by Asea Motors 110 Volts 18 Amps each.

LUBRICATING OIL HEATER:- Manufactured by Messrs. Andersons Ltd., tested to 200Lbs Hydraulic, afterwards under Steam, under working conditions.

COOLING WATER FILTERS:- 2 Cooling Water Filters are fitted between the Cooling Water Inlet and the Pump on the Main Engines. These can be operated independently and the Cooling Water Inlet Valve is fitted with Gauze and arranged so that it can be cleaned while the Vessel is at sea. Either filter can be cleaned or examined without interfering with the efficiency of the Pump.

REDUCING VALVE:- A new Steam Reducing Valve has been manufactured by Messrs. Andersons Ltd., to enable the Deck Machinery being run at a reduced pressure. I tested this reducing Valve to 300 Lbs Hydraulic pressure and afterward under steam under working conditions.

DYNAMO ENGINE:- The original Steam Engine and Dynamo have been overhauled and tested under working conditions. This is a Clarke Chapman No. 6741, Type 2S, Revs 450, direct coupled dynamo, Volts 110, Amps 41.

NEW GENERATOR:- As per Electrical Report.

LAGGING:- The Donkey Boiler and Silencer Exhaust Pipe have been lagged with a non-conducting composition encased by Galvanised Steel Plating. The Donkey Boiler and Silencer have been properly fastened and stayed.

AUXILIARY CONDENSOR:- The original Auxiliary Condenser has been retained and properly fastened and stayed. All Steam Exhaust Pipes have been tested under working conditions and all pumps have been tested under working conditions.

SUCTIONS:- The Suctions of the Main Engine Bilge Pumps in the Engine Room are of the following sizes:- Centre 3", Wings 2 1/2". Main Engine Bilge Pump Suctions in Holds and in Aft Peak and in Fore Peak 2". The number of Auxiliary Pumps connected to the Main Bilge Lines are 3 i.e. 2 Steam, 1 Electric.

The number of Suctions connected to the Main and Auxiliary Bilge Pumps and sizes of same are as follows:- Engine Room - 2 of 3", and 3 of 2 1/2".

Holds - 4 of 2".
Fore Peak - 1 of 2".
Aft Peak - 1 of 2".
Aft Well - 1 of 2".

The Ballast Pump is fitted with an Independent 3" Suction in the Engine Room. All Suctions are fitted with roses and in the Engine Room these are always accessible.

The Sea Connections can all be operated without lifting Engine Room, Platform Plate, and the Discharge Valves are always accessible from the Engine Room on the Plating of the Vessel. The Bilge Suction Pipes and Valves are arranged to prevent communication between the sea and the Bilges. The Discharge Valves are above the Deep Water Line.

WATER TIGHT DOORS:- The Shaft Tunnel is fitted with a Water Tight Door operated from the Engine Room Grating. This has been worked and is in good order.

FIRE FIGHTING APPLIANCES:- Fire Fighting Appliances have been fitted according to Rule and are as follows:- 1 perforated Steam Pipe, discharging under Donkey Boiler and fitted with a control Wheel Valve in Engine Room and on Boat Deck.

REPORT ON OIL ENGINE MACHINERY.

No. 3929

0252 3/3

4b.

REPORT 9.

(3).

CONTINUATION OF REPORT NO. 1252 ON THE M.V. "PAKURA".

1 Sea Water Hose Connection from Deck Water Service Pipe in Engine Room with Hose complete, and in addition there is a Foamite Installation Tank fitted on top of Engine Room Grating.

OIL FUEL TANK CONTROLS:- The Suction Valves in Engine Room on the Nos. 3 and 4 D.B. Fuel Oil Tank can be operated in the Engine Room near the Telegraph and Main Engine Control. They can also be operated from the Boat Deck. The Port and Starboard Independent Oil Fuel Tank Suction Valves can be operated in the Engine Room and on the Boat Deck.

DAILY SERVICE TANK SUCTION VALVE:- This can be operated in the Engine Room and also from the Boat Deck. All other Valves and cocks can be operated without lifting Platform Plating.

DONKEY BOILER:- The Donkey Boiler is a Cochran Oil Fuel Burning.
Marks:- No. 19041, Lloyd's Test 275Lbs. W.P. 150 Lbs.
J.S.C. 5-7-34.

adjusted the Safety Valves to blow at 150Lbs per Sq. Inch.

PLANS:- Blue Print Plans No. 5040, 5041, 5042, and 5048 showing Engine Seating ~~Seating~~ and Constructions of Independent Oil Tanks were forwarded with my letter of November 5th 1934.

Plans Nos. D5065, C 5066 and 5073 and 1 Blue Print of Daily Service Tank are forwarded now under separate Cover.

The "PAKURA" leaving this Port made a non-stop Run to Auckland, a distance of 674 Miles, and the Superintending Engineer reported that the Engines and Stability of the Vessel ~~was~~ ^{was very} satisfactory.

*concluded that plans of the
arrangements to
be submitted to approval
of Christchurch N.Z. Surveyors
and conform this
should also be informed that
any intermediate & beam shafts
retained (provided they remain
in position) if the tower is to be
removed*

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