

# Report on Steam Turbine Machinery. No. 4334

Received at London Office 8-MAR-1949

Writing Report 4th March 1949 When handed in at Local Office 4th Mar. 1949 Port of NAPLES  
 Survey held at Palermo Date, First Survey 10th Jan. Last Survey 20th Febr. 1949  
 (Number of Visits 10)  
 24 on the s.s. "CLEVELAND" ex "Forbes Roads" Tons (Gross 10667 Net 6313.89)  
 at Portland Or. By whom built Kaiser Co. Inc. Yard No. 57 When built 1944  
 es made at Lynn Mass By whom made Gen. Electr. Co. Engine No. 61812 When made 1944  
 rs made at St Louis Mo By whom made Combustion Eng. Co. Boiler No 7729 & When made 1944  
 Horse Power at Full Power 7240 Owners Cleveland Petroleum Co. Ltd. Port belonging to London  
 Horse Power as per Rule 1324 MN=1486 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted yes  
 e for which Vessel is intended Carrying Petroleum in bulk

## STEAM TURBINE ENGINES, &c.—Description of Engines. One Curtis Impulse 10 Stage Turbine

Turbines Ahead one Direct coupled, single reduction geared } to = propelling shafts. No. of primary pinions to each set of reduction gearing =  
 Astern ✓ double reduction geared }  
 coupled to Alternating Current Generator 3 phase 60/62 periods per second } rated 4925/ Kilowatts 2300/ Volts at 3600/ revolutions per minute;  
 Direct Current Generator } 5400 2370 3715  
 Applying power for driving one Propelling Motors, Type 3 Phase 60/62 cycle, 80 Pole, Revolving-Field, Salient Pole, Synchronous  
 6000/ 6600 BHP 2300/ 2570 Volts at 90/93 revolutions per minute. Direct coupled, single or double reduction geared to one propelling shafts.

LINE	H. P.			I. P.			L. P.			ASTERN.		
	HEIGHT OF BLADES.	DIAMETER AT TIP.	NO. OF ROWS.	HEIGHT OF BLADES.	DIAMETER AT TIP.	NO. OF ROWS.	HEIGHT OF BLADES.	DIAMETER AT TIP.	NO. OF ROWS.	HEIGHT OF BLADES.	DIAMETER AT TIP.	NO. OF ROWS.
Expansion	7/8	34"	2									
"	1"	34"	1									
"	1.1/4"	34.3/8"	1									
"	1.5/8"	35.1/4"	1									
"	7/8"	42.1/2"	1									
"	1.3/8"	43.1/2"	1									
"	2.1/8"	45.1/2"	1									
"	2.1/2"	47"	1									
"	5.1/2"	49.1/2"	1									
"	9"	56"	1									

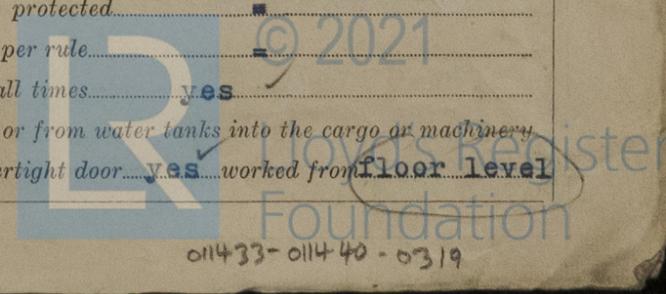
Horse Power at each turbine { H.P. 3600/3715 1st reduction wheel  
 { H.P. main shaft 90/93  
 { H.P.   
 Shaft diameter at journals { H.P. 5" and 10" Pitch Circle Diameter { 1st pinion 1st reduction wheel  
 { H.P. 2nd pinion main wheel  
 { H.P. 3rd pinion main wheel  
 { H.P. 4th pinion main wheel

Pinion Shafts, diameter at bearings { 1st = 2nd = diameter of pinion shaft  
 { 1st = 2nd = diameter of wheel shaft  
 Intermediate Shafts, diameter as per rule 16.1/2 as fitted 16.7/8 Thrust Shaft, diameter at collars as per rule 17.325 as fitted 17.1/2  
 Shaft, diameter as per rule = as fitted = Screw Shaft, diameter as per rule 18.1/8 as fitted 18.5/8 Is the screw shaft fitted with a continuous liner { yes ✓

Liner thickness in way of bushes as per rule .85 as fitted 1.1/8 Thickness between bushes as per rule .65 as fitted 1 Is the after end of the liner made watertight in the huller boss yes If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner =  
 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 =  
 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 no If so, state type Length of Bearing in Stern Bush next to and supporting propeller 7' 3" ✓  
 Propeller, diameter 19' 6" Pitch 17' 6" No. of Blades 4 State whether Moveable no Total Developed Surface 138.3 square feet.

Single Screw, are arrangements made so that steam can be led direct to the L.P. Turbine One turbine only Can the H.P. or I.P. Turbines exhaust direct to the atmosphere = No. of Turbines fitted with astern wheels none Feed Pumps { No. and size 2 Cent. 200 GPM. } Simplex 10"x7"x24"  
 { How driven Turbine } Steam Cyl.  
 Pumps connected to the Main Bilge Line { No. and size 2 Bilge at 175 GPM } 2 Gen Service at 450 GPM  
 { How driven Electric Motor } Electric Motor  
 Bilge Pumps, No. and size One at 10"x7"x10" Duplex Lubricating Oil Pumps, including Spare Pump, No. and size 2 Horizontal Rotary 60 GPM  
 independent means arranged for circulating water through the Oil Cooler yes ✓ Suctions, connected both to Main Bilge Pumps and Auxiliary Pumps, No. and size:—In Engine and Boiler Room 1. 3.1/2 = 9 at 3" = 2 at 4" In Pump Room

Water Circulating Pump Direct Bilge Suctions, No. and size 1 - 18" Dia. Independent Power Pump Direct Suctions to the Engine Room  
 No. and size 2 at 4 Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes =  
 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  
 Sea Connections fitted direct on the skin of the ship Spool Pieces Are they fitted with Valves or Cocks valves  
 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 below  
 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  
 What pipes pass through the bunkers none How are they protected  
 pipes pass through the deep tanks none Have they been tested as per rule  
 Pipes, Cocks, Valves and Pumps in connection with the machinery and all boiler mountings accessible at all times yes  
 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  
 or from one compartment to another yes Is the Shaft Tunnel watertight yes Is it fitted with a watertight door yes worked from floor level



W 1486 SPT.

**BOILERS, &c.**—(Letter for record S) Total Heating Surface of Boilers 9868 + 1486 SPT.  
 Is Forced Draft fitted yes No. and Description of Boilers 2 Combustion Eng. Straight Tube Working Pressure 500 L  
 Is a Report on Main Boilers now forwarded? yes  
 Is a Donkey Boiler fitted? no If so, is a report now forwarded? =  
 (an Auxiliary)  
 Is the donkey boiler intended to be used for domestic purposes only? =  
 Plans. Are approved plans forwarded herewith for Shafting no Main Boilers no Auxiliary Boilers = Donkey Boilers =  
 (If not, state date of approval)  
 Superheaters no General Pumping Arrangements no Oil Fuel Burning Arrangements no

**SPARE GEAR.**

Has the spare gear required by the Rules been supplied? yes  
 State the principal additional spare gear supplied. As per Rule Requirements

The foregoing is a correct description,

Dates of Survey while building { During progress of work in shops - - } American Bureau Survey  
 { During erection on board vessel - - - }  
 Total No. of visits =

Dates of Examination of principal parts—Casings..... Rotors..... Blading..... Gearing.....  
 Wheel shaft..... Thrust shaft..... Intermediate shafts..... Tube shaft..... Screw shaft.....  
 Propeller..... Stern tube..... Engine and boiler seatings..... Engine holding down bolts.....  
 Completion of fitting sea connections..... Completion of pumping arrangements..... Boilers fixed..... Engines tried under steam.....  
 Main boiler safety valves adjusted..... Thickness of adjusting washers.....  
 Rotor shaft, Material and tensile strength..... Identification Mark.....  
 Flexible Pinion Shaft, Material and tensile strength..... Identification Mark.....  
 Pinion shaft, Material and tensile strength..... Identification Mark.....  
 1st Reduction Wheel Shaft, Material and tensile strength..... Identification Mark.....  
 Wheel shaft, Material..... Identification Mark..... Thrust shaft, Material..... Identification Mark.....  
 Intermediate shafts, Material..... Identification Marks..... Tube shaft, Material..... Identification Marks.....  
 Screw shaft, Material steel Identification Marks..... Steam Pipes, Material..... Test pressure.....  
 Date of test..... 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?..... 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 a duplicate of a previous case?..... If so, state name of vessel?.....

**General Remarks.** (State quality of workmanship, opinions as to class, &c.) The machinery of this vessel was constructed under the Special Survey, and to the requirements of the American Bureau of Shipping, and U.S. Coast Guard, and the materials and workmanship are considered satisfactory.  
The scantlings, and the general arrangements have been checked as far as practicable and found to conform to available plans.  
For recommendations as to class etc., please see Report 9 attached.

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

The amount of Entry Fee ... £	:	:	When applied for
Special <u>to be rendered from London.</u>	...	£	19
Donkey Boiler Fee ... £	:	:	When received.
Travelling Expenses (if any) £	:	:	19

F. N. Sutcliffe  
 Engineer-Surveyor to Lloyd's Register of Shipping.

Committee's Minute WED 13 APR 1910

Assigned

