

# REPORT ON STEAM TURBINE MACHINERY. No. 1005

pt. 4a.

Received at London Office 3<sup>rd</sup> AUG 1948

of writing Report 14<sup>th</sup> JUNE 48 When handed in at Local Office 15<sup>th</sup> JUNE 48 Port of GALVESTON TEXAS.  
 in Survey held at GALVESTON TEXAS. Date, First Survey 26<sup>th</sup> MAY 48 Last Survey 9<sup>th</sup> JUNE 1948  
 Reg. Book 685 on the 83 THEOBALDIUS EX SILVER CREEK (Number of Visits) CONTINUOUS  
 Tons { Gross 10662  
 Net 6323  
 built at PORTLAND OREGON By whom built KAISER CO INC Yard No. 145 When built 1945-8  
 engines made at LYNN MASS By whom made GENERAL ELECTRIC CO Engine No. 72185 When made 1945-8  
 boilers made at CHATTANOOGA TENN By whom made COMBUSTION ENGINEERING CO Boiler No. 512097 When made 1945-8  
 shaft Horse Power at Full Power 6000 Owners ANGLO-SAXON PETROLEUM CO LTD Port belonging to LONDON  
 om. Horse Power as per Rule 1425 MN 1486 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted YES  
 made for which Vessel is intended PETROLEUM IN BULK

## STEAM TURBINE ENGINES, &c.—Description of Engines ONE CURTIS IMPULSE 10 STAGE TURBINE

of 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 }  
 Direct coupled to Alternating Current Generator 3 phase 60/62 periods per second } 4915/5400 Kilowatts 2300/2370 Volts at 3600/3715 revolutions per minute;  
 Direct Current Generator }  
 supplying power for driving ONE Propelling Motors, Type TSM-HL-80 ONE SYNCHRONOUS MOTOR (ABS 9246NY 2-6-45)  
 ed 4625 Kilowatts 2300 Volts at 90 revolutions per minute. Direct coupled, single or double reduction geared to ONE propelling shafts.

	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.
1ST EXPANSION												
2ND												
3RD												
4TH												
5TH												
6TH												
7TH												
8TH												
9TH												
10TH												
11TH												
12TH												

shaft Horse Power at each turbine { H.P. 7240  
 I.P. ✓  
 L.P. ✓  
 Revolutions per minute, at full power, of each Turbine Shaft { H.P. 3600  
 I.P. ✓  
 L.P. ✓  
 1st reduction wheel ✓  
 main shaft 90 ✓

Motor Shaft diameter at journals { H.P. 5" + 10"  
 I.P. ✓  
 L.P. ✓  
 Pitch Circle Diameter { 1st pinion ✓ 1st reduction wheel ✓  
 2nd pinion ✓ main wheel ✓  
 Width of Face { 1st reduction wheel ✓  
 main wheel ✓  
 distance between centres of pinion and wheel faces and the centre of the adjacent bearings { 1st pinion ✓ 1st reduction wheel ✓  
 2nd pinion ✓ main wheel ✓

flexible Pinion Shafts, diameter { 1st ✓  
 2nd ✓  
 Pinion Shafts, diameter at bearings External 1st ✓ 2nd ✓  
 Internal 1st ✓ 2nd ✓  
 diameter at bottom of pinion teeth { 1st ✓  
 2nd ✓  
 Wheel Shafts, diameter at bearings { 1st ✓  
 main ✓  
 diameter at wheel shroud, { 1st ✓  
 main ✓  
 Generator Shaft, diameter at bearings 5 1/2"  
 Propelling Motor Shaft, diameter at bearings 17.268" ✓

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 18" ✓  
 Tube Shaft, diameter as per rule ✓  
 as fitted ✓  
 Crew Shaft, diameter as per rule 18 1/8"  
 as fitted 18 5/8" ✓  
 Is the screw { shaft fitted with a continuous liner YES ✓  
 thickness between bushes as per rule 65  
 as fitted 3 1/2" ✓  
 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 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 ✓  
 If two liners are fitted, is the shaft lapped or protected between the liners ✓  
 Is an approved Oil Gland other appliance fitted at the after end of the tube shaft No  
 Length of Bearing in Stern Bush next to and supporting propeller 7'-3" ✓  
 Propeller, diameter 19'-6" Pitch 17.6 @ 6.6 No. of Blades FOUR State whether Moveable SOLID Total Developed Surface 138.30 square feet.

Single Screw, are arrangements made so that steam can be led direct to the L.P. Turbine ONE TURBINE Can the H.P. or L.P. Turbine exhaust direct to the  
 condenser YES No. of Turbines fitted with astern wheels ✓  
 Feed Pumps { No. and size TWO 200 GPM ONE 100 GPM 130 GPM  
 How driven STEAM TURBO-UNITS. STEAM VERT. SIMPLEX

pumps connected to the Main Bilge Line { No. and size ER TWO 175 GPM + ONE 450 GPM FORD PR. ONE 300 GPM. AFT PR. ONE 200 GPM.  
 How driven ELECTRIC CENTRIFUGAL VERT DUPLEX 10" x 2 1/2" VERT DUPLEX 14" x 14" x 12 STEAM  
 Ballast Pumps, No. and size FORD PR. ONE 10" x 7" x 10" 300 GPM VERT DUPLEX 10" x 2 1/2" x 10" VERT DUPLEX 14" x 14" x 12 STEAM  
 AFT PR. ONE 14" x 14" x 12 200 GPM ONE 6" x 7" x 8" VERT SIMPLEX STEAM

are two independent means arranged for circulating water through the Oil Cooler YES ✓  
 Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge  
 pumps, No. and size:—In Engine and Boiler Room ER ELEVEN 3" DIA INTO 4" MAIN + ONE 2" DIA; TWO 3 1/2" DIA INTO 4" LINE BR. FLAT FOUR 2 1/2" DIA INTO 2 1/2" LINE  
 Holds, &c. FORD + AFT PEAKS ONE 4" EACH CHAIN LOCKER 2 EJECTOR; FORD PR TWO 2 1/2"; AFT PR. ONE 4" + AFT CD. TWO 3" DIA; DRY STORE FORD TWO 2 1/2" DIA  
 Main Water Circulating Pump Direct Bilge Suctions, No. and size ONE 18" DIA ✓ Independent Power Pump Direct Suctions to the Engine Room  
 Alges, No. and size TWO 4" DIA ✓ 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 NO. BOXES OR SPOOLS 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 line 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 covering plate YES ✓

that pipes pass through the bunkers ✓ How are they protected ✓  
 that 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 ✓  
 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 YES ✓ Is it fitted with a watertight door YES ✓ worked from ER FLOOR LEVEL



BOILERS, &c.— (Letter for record *S*) Total Heating Surface of Boilers *11354 SQ. FT.*  
Is Forced Draft fitted *YES* No. and Description of Boilers *TWO SINGLE PASS STRAIGHT TUBE S.H. WITH SUPERHEATERS AND AIR HEATERS* Working Pressure *500 LBS*  
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 Shasting *YES* Main Boilers *YES* Auxiliary Boilers *✓* Donkey Boilers *✓*  
(If not state date of approval)  
Superheaters *YES* General Pumping Arrangements *YES* Oil Fuel Burning Arrangements *✓*  
Spare Gear. State the articles supplied:— *SUPPLIED TO RULE REQUIREMENTS* *✓*

The foregoing is a correct description, *✓*

Manufacturer

Dates of Survey while building *During progress of work in shops - - - ✓*  
*During erection on board vessel - - - ✓*  
Total No. of visits *✓*

Dates of Examination of principal parts—Casings *✓* Rotors *✓* Blading *✓* Gearing *✓*  
Wheel shaft *✓* Thrust shaft *28<sup>TH</sup> MAY.* Intermediate shafts *29<sup>TH</sup> MAY 48* Tube shaft *✓* Screw shaft *29 MAY 48*  
Propeller *29<sup>TH</sup> MAY 48* Stern tube *29<sup>TH</sup> MAY 48* Engine and boiler seatings *2<sup>ND</sup> JUNE 48* Engine holding down bolts *2<sup>ND</sup> JUNE 48*  
Completion of pumping arrangements *8<sup>TH</sup> JUNE 48* Boilers fixed *✓* Engines tried under steam *9<sup>TH</sup> JUNE 48*  
Main boiler safety valves adjusted *8<sup>TH</sup> JUNE 48* 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 *OH STEEL* Identification Mark *HT 63743-B1-AB3*  
Intermediate shafts, Material *OH STEEL* Identification Marks *AB 599-B* Tube shaft, Material *✓* Identification Marks *✓*  
Screw shaft, Material *OH STEEL* Identification Marks *AB 599-E* Steam Pipes, Material *OH STEEL* Test pressure *750 LBS.*  
Date of test *1<sup>ST</sup> JUNE 48* 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 *✓*  
Is this machinery a duplicate of a previous case *YES* If so, state name of vessel *T2 TANKER CLASS*

General Remarks (State quality of workmanship, opinions as to class, &c.) *The machinery & boilers of this vessel were constructed under special supervision of Surveyors to the American Bureau of Shipping & U.S.C.G. the condition & standard of materials & workmanship are considered to be good & satisfactory. The main & auxiliary machinery as opened for survey (see Rpt 9) are in good condition, were all examined under working conditions & found satisfactory. The machinery & boilers of this vessel are eligible, in my opinion, to be classed with this Society, with a record of LMC-MS 6-48 when the survey has been completed, is recommended for the favourable consideration of the Committee.*

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

*James Bloomfield*  
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute *NEW YORK JUL 14 1948*

Assigned *Class contemplated*



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