

# AUXILIARY Report on Steam Turbine Machinery.

Mut. Rpt  
No. 9906

4a. General of writing Report 9th Nov. 19 53 When handed in at Local Office 10th Nov. 19 53 Port of Quebec, P.Q. Received at London Office  
 29-2 4a. in Survey held at Lauzon, P.Q. Date, First Survey 21st August Last Survey 9th November, 19 53  
 Book (Number of Visits 10 )  
 4835 on the Steel Single Screw Steamer (Tanker) "ANDROS VENTURE" Tons {Gross 17845  
 Net  
 at Lauzon, P.Q. By whom built Davie S.B. & Rprg. Co. Ld. Yard No. 595 When built 1953  
 Lines made at Fitchburg, Mass. By whom made General Electric Co. Turbines 101068 When made 1953  
 Engines made at St. Catharines, Ont. By whom made Foster Wheeler, Ld. Engine No. 101067  
 Boiler No. 5115 5116 When made 1953  
 ft Horse Power at Full Power - Owners Andros Shipping Limited Port belonging to Montreal  
 n. Horse Power as per Rule - Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes.  
 de for which Vessel is intended Carrying Petroleum in Bulk

**AM TURBINE ENGINES, &c.**—Description of Engines 400 KW. A.C. Turbo Generators (2 units per ship)  
 of Turbines Ahead one Direct coupled, Generator  
 Astern - single reduction geared to propelling shafts. No. of primary pinions to each set of reduction gearing  
 t coupled to { Alternating Current Generator 3 phase 60 periods per second } rated 400 Kilowatts 440 Volts at 1200 revolutions per minute;  
 Direct Current Generator  
 Manu applying power for driving Propelling Motors, Type Ships Auxiliaries  
 Kilowatts Volts at revolutions per minute. Direct coupled, single or double reduction geared to propelling shafts.

TURBINE DING.	H. P.	I. P.	L. P.	ASTERN.
No. of rows	6	-	-	-
No. of stages	-	-	-	-
No. of rows in each stage	-	-	-	-

Horse Power at each turbine { H.P. - I.P. - L.P. - } Revolutions per minute, at full power, of each Turbine Shaft { H.P. 10,059 1st reduction wheel - I.P. - main shaft 1200 L.P. - }

Shaft diameter at journals { H.P. 2 1/2" I.P. - L.P. - } Pitch Circle Diameter { 1st pinion 3.4" 1st reduction wheel - 2nd pinion - main wheel 28.5" } Width of Face { 1st reduction wheel 8.25" main wheel 8.25" }

Distance between centres of pinion and wheel faces and the centre of the adjacent bearings { 1st pinion 15.95" 1st reduction wheel - 2nd pinion - main wheel 15.95" }

Pinion diameter { 1st 3" 2nd - } Pinion Shafts, diameter at bearings External 1st 3" 2nd - Internal 1st 3" 2nd - diameter at bottom of pinion teeth 1st 3.171" 2nd -

Shafts, diameter at bearings { 1st - 2nd - } diameter at wheel shroud, { 1st - 2nd - } Generator Shaft, diameter at bearings - Propelling Motor Shaft, diameter at bearings -

Intermediate Shafts, diameter as per rule - as fitted - Thrust Shaft, diameter at collars as per rule - as fitted -

Shaft, diameter as per rule - as fitted - Screw Shaft, diameter as per rule - as fitted - Is the { tube screw } shaft fitted with a continuous liner { - }

Liners, thickness in way of bushes as per rule - as fitted - Thickness between bushes as per rule - as fitted - Is the after end of the liner made watertight in the -

If the liner is in more than one length are the junctions made by fusion through the whole thickness of 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 -

Are the liners 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 -

If so, state type - Length of Bearing in Stern Bush next to and supporting propeller -

r, diameter - Pitch - No. of Blades - State whether Moveable - Total Developed Surface - square feet.

Screw, are arrangements made so that steam can be led direct to the L.P. Turbine - Can the H.P. or I.P. Turbines exhaust direct to the -

No. of Turbines fitted with astern wheels - Feed Pumps { No. and size - How driven - }

connected to the Main Bilge Line { No. and size - How driven - }

umps, No. and size - Lubricating Oil Pumps, including Spare Pump, No. and size Two x 40 Gpm. 1 Hand Pump

dependent means arranged for circulating water through the Oil Cooler Yes Suctions, connected both to Main Bilge Pumps and Auxiliary Pump

ps, No. and size:—In Engine and Boiler Room - In Pump Room -

er Circulating Pump Direct Bilge Suctions, No. and size - Independent Power Pump Direct Suctions to the Engine Room

and size - Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes -

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 -

Connections fitted direct on the skin of the ship - Are they fitted with Valves or Cocks -

ed sufficiently high on the ship's side to be seen without lifting the stokehold plates - Are the Overboard Discharges above or below the deep water -

Are they each fitted with a Discharge Valve always accessible on the plating of the vessel - Are the Blow Off Cocks fitted with a spigot and brass -

ate - What pipes pass through the bunkers - How are they protected -

pass through the deep tanks - Have they been tested as per rule -

as, Cocks, Valves and Pumps in connection with the machinery and all boiler mountings accessible at all times -

gement 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 -

er of Shipping - Is the Shaft Tunnel watertight - Is it fitted with a watertight door - worked from -

&c.—(Letter for record - ) Total Heating Surface of Boilers 18390 sq. ft.

raft fitted Yes No. and Description of Boilers 2 water tube Working Pressure 675 lbs.

in Main Boilers now forwarded? Yes

If so, is a report now forwarded? .....

Is  a Donkey Boiler fitted?  an Auxiliary Boiler fitted? .....

Is the donkey boiler intended to be used for domestic purposes only? .....

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 Arrangements. .....

Geared turbines situated aft. Have torsional vibration characteristics of system been approved. Date of approval. ....

**SPARE GEAR.**

Has the spare gear required by the Rules been supplied. As specified .....

State the principal additional spare gear supplied. ....

The foregoing is a correct description.

DAVIE SHIPBUILDING & REPAIRING CO. LTD.  
*[Signature]*  
 NAVAL ARCHITECT.

Dates of Survey while building

During progress of work in shops - -	May 1st.
During erection on board vessel - -	1953. Aug. 21, Sept 9, 21; Oct. 15, 19, 23, 26; Nov. 3, 9.
Total No. of visits	1 and 9 = 10.

Dates of Examination of principal parts

Casings	1-5-53	Rotors	1-5-53	Blading	1-5-53	Gearing	1-5-53
Wheel shaft	-	Thrust shaft	-	Intermediate shafts	-	Tube 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	O.H. Steel 118,000, 130000 P.S.I.	Identification Mark					
Flexible Pinion Shaft, Material and tensile strength	O.H. Steel 159,500 P.S.I.	Identification Mark					
Pinion shaft, Material and tensile strength	O.H. Steel 208,250 P.S.I.	Identification Mark					

If Pinion Shafts are made of special steel state date of approval of chemical analyses, physical properties and heat treatment. ....

1st Reduction Wheel Shaft, Material and tensile strength. Identification Mark. ....

Wheel shaft, Material. O.H. Steel Identification Mark. Thrust shaft, Material. Identification Mark. ....

Intermediate shafts, Material. Identification Marks. Tube shaft, Material. Identification Marks. ....

Screw shaft, Material. Identification Marks. Steam Pipes, Material. Test pressure. ....

Date of test. ....

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. ....

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. No. ....

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.) Please see attached Boston Report No. 4473. ....

These Turbo Generator Sets have now been installed on board this Vessel under Special Survey and in accordance with this Society's Rules. Satisfactory heat runs, parallel test, full load and overload trials have been satisfactorily carried out. The overload speed trips have been tried and are adjusted at 1330 Rpm's. On completion of trial gearings, bearings and thrust were opened, examined and closed in good condition. The gear casing was then stamped Lloyd's Examined 26-10-53 D.H. The workmanship and materials are good.

Certificate (if required) to be sent to Committee's Minute. (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	£	19
Donkey Boiler Fee	£	When received.
Travelling Expenses (if any)	£	19

FRIDAY 11 JUN 1954

*[Signature]*  
 Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute  
 Assigned. See Rpt. 4a.