

REPORT ON OIL ENGINE MACHINERY.

REC'D. MTL JAN 22 1954

No. 2173

3-FEB 1954

Date of writing Report 11-11-1952 When handed in at Local Office 19 Port of TORONTO, CANADA/
No. in Survey held at Erieau, Ontario. Date, First Survey 1-10-51 Last Survey 23-10-1953
Reg. Book. S. Screw Double Ended Auto Ferry (each end) M.V. "THE ST. JOSEPH ISLANDER"
Single on the Twin Triple Quadruple Screw vessel
Built at Erieau, Ontario By whom built Erieau Shipbuilding & Dry Dock Co. Yard No. 64 When built 1952
Engines made at Columbus, Ind. By whom made Cummins Engine Co. Ltd. 102653 P. When made 1952
Donkey Boilers made at - By whom made - Boiler No. - When made -
Brake Horse Power { Maximum 175 rated Owners Ontario Department of Highways Port belonging to Toronto, Ontario.
M.N. as per Rule Is Refrigerating Machinery fitted for cargo purposes - Is Electric Light fitted Yes
Trade for which vessel is intended Auto Ferry Service (Restricted Waters Service)

OIL ENGINES &c. - Type of Engines Diesel 2 or 4 stroke cycle 4 Single or double acting S
Maximum pressure in cylinders 1100 Diameter of cylinders 5.125" Length of stroke 6" No. of cylinders 6 No. of cranks 6
Mean Indicated Pressure - Span of bearings (i.e., distance between inner edges of bearings in way of a crank) 4 11/16" Is there a bearing between each crank Yes Revolutions per minute { Maximum 1400 Service 1350
Flywheel dia. 19.375 Weight 175 lbs. Moment of inertia of flywheel (lbs. in² or Kg. cm.²) - Means of ignition Compress Kind of fuel used Diesel
" " " " balance wts. (" " " ")

Crank Shaft, Solid forged dia. of journals as per Rule 4.5" Crank pin dia. 3.125" Crank webs Mid. length breadth 5.5" Thickness parallel to axis -
Semi built dia. of journals as fitted 4.5" Crank webs Mid. length thickness 1.125" shrunk Thickness around eyehole -
At built

Flywheel Shaft, diameter as per Rule 6" Dia. Intermediate Shafts, diameter as per Rule 3" Thrust Shaft, diameter at collars as per Rule - (Ball Bearing 2.375" Thrust)
Tube Shaft, diameter as per Rule - Screw Shaft, diameter as per Rule 3.5" Is the tube screw shaft fitted with a continuous liner No

Bronze Liners, thickness in way of bushes as per Rule - Thickness between bushes as per Rule - Is the after end of the liner made watertight in the propeller boss -
If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner -
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 fitted at the after end of stern tube - If so, state type -

Propeller, dia. 46" Pitch 25" No. of blades 4 Material Steel whether moveable Solid Total developed surface 5.8 sq. feet
Moment of inertia of propeller including entrained water (lbs. in² or Kg. cm.²) 319 lbs. Ft. 2 Kind of damper, if fitted -
Method of reversing Engines Impeller, Oil Is a governor or other arrangement fitted to prevent racing of the engine Yes
Lub. Thickness of cylinder liners 5/16" Are the cylinders fitted with safety valves No Are the exhaust pipes and silencers water cooled
Cooled If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned to the engine Stand Pipe Clear of Bridge Cooling Water Pumps, No. and how driven 2 Pumps Heat Exchanger Working F.W. F.W. Enclosed
Spare F.W. - S.W. - Is the sea suction provided with an efficient strainer which can be cleared within the vessel None Circuit

Pumps worked from the Main Engines, No. and capacity None Can one be overhauled while the other is at work -
Pumps connected to the Main Bilge Line No. and capacity of each One (Bilge & General Service) How driven One H.P. Electric Motor
Cooling water led to the bilges No If so, state what special arrangements are made to deal with this water in addition to the ordinary bilge pumping arrangements -

Oil Pumps, No. and capacity None Power Driven Lubricating Oil Pumps, including spare pump, No. and size None
Two independent means arranged for circulating water through the Oil Cooler One only Branch Bilge Suctions Four
In machinery spaces Four - 2" Dia. In pump room -

Bilge Suctions to the engine room bilges, No. and size None
Shaft Compartment
All the bilge suction pipes in holds and tanks well fitted with strum-boxes Yes Are the bilge suction in the machinery spaces led from easily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges Strum Boxes
Sea Connections fitted direct on the skin of the Ship Yes Are they fitted with valves or cocks Both Are they fixed

Highly high on the ship's side to be seen without lifting the platform plates Yes Are the overboard discharges above or below the deep water line Above
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 None
Pipes pass through the bunkers - How are they protected -
Pipes pass through the deep tanks - 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 into the compartment
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 Room

Wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork -
Air Compressors, No. None No. of stages - diameters - stroke - driven by -
Auxiliary Air Compressors, No. None No. of stages - diameters - stroke - driven by -
All Auxiliary Air Compressors, No. One No. of stages One diameters 2" stroke 1 3/4" driven by 5 H.P. Elec. Motor

What provision is made for first charging the air receivers. Electric starting
Savenging Air Pumps or Blowers, No. - How driven -
Auxiliary Engines Have they been made under survey - Engine Nos. -
Makers name - Position of each in engine room -
Report No. -

12. Auxiliary Engines Have they been made under survey - Engine Nos. -
Makers name - Position of each in engine room -
Report No. -

12. Auxiliary Engines Have they been made under survey - Engine Nos. -
Makers name - Position of each in engine room -
Report No. -

12. Auxiliary Engines Have they been made under survey - Engine Nos. -
Makers name - Position of each in engine room -
Report No. -

12. Auxiliary Engines Have they been made under survey - Engine Nos. -
Makers name - Position of each in engine room -
Report No. -

12. Auxiliary Engines Have they been made under survey - Engine Nos. -
Makers name - Position of each in engine room -
Report No. -

12. Auxiliary Engines Have they been made under survey - Engine Nos. -
Makers name - Position of each in engine room -
Report No. -

12. Auxiliary Engines Have they been made under survey - Engine Nos. -
Makers name - Position of each in engine room -
Report No. -

12. Auxiliary Engines Have they been made under survey - Engine Nos. -
Makers name - Position of each in engine room -
Report No. -

12. Auxiliary Engines Have they been made under survey - Engine Nos. -
Makers name - Position of each in engine room -
Report No. -

12. Auxiliary Engines Have they been made under survey - Engine Nos. -
Makers name - Position of each in engine room -
Report No. -

12. Auxiliary Engines Have they been made under survey - Engine Nos. -
Makers name - Position of each in engine room -
Report No. -

011267-011272-0081 1/2

AIR RECEIVERS:—Have they been made under survey No ☒ State No. of report or certificate —
State full details of safety devices Press. Automatic Cut off and One - 1/2" Spring Loaded S.V. ☒
Can the internal surfaces of the receivers be examined and cleaned No ☐ Is a drain fitted at the lowest part of each receiver ☒ Yes
Injection Air Receivers, No. — Cubic capacity of each — Internal diameter — thickness —
Seamless, welded or riveted longitudinal joint — Material — Range of tensile strength — Working pressure —
Whistle ☒ Starting Air Receivers, No. One Total cubic capacity 4.7 Internal diameter 6" ☒ thickness 1/25"
Seamless, welded or riveted longitudinal joint Seamless Material Mtl. Flange Range of tensile strength 55000 Working pressure 150 Lbs.p.
IS A DONKEY BOILER FITTED — If so, is a report now forwarded —
Is the donkey boiler intended to be used for domestic purposes only Yes ☒ Receivers No ☐ Separate fuel tanks Yes ☒

PLANS. Are approved plans forwarded herewith for shafting (If not, state date of approval) Yes ☒ Receivers No ☐ Separate fuel tanks Yes ☒
Donkey boilers — General pumping arrangements Yes ☒ Pumping arrangements in machinery space Yes ☒
Oil fuel burning arrangements —
Have Torsional Vibration characteristics been approved — Date and particulars of approval —

SPARE GEAR.

Has the spare gear required by the Rules been supplied — State if for "short voyages" only Limited Service (Distance 60
State the principal additional spare gear supplied —
No principal spare gear on board

The foregoing is a true and correct description of the machinery of the vessel M.V. "THE ST. JOSEPH ISLANDER" Co. Ltd. Manufacturer.

Dates of Survey while building During progress of work in shops 12-2-52
During erection on board vessel 19-6-52, 20-6-52, 14-7-52, 15-7-52, 12-8-52, 25-9-52, 21-10-52, 22-10-52, 23-10-52
Total No. of visits 11
Dates of examination of principal parts—Cylinders 12-2-52 Covers 12-2-52 Pistons 12-2-52 Rods 12-2-52 Connecting rods 12-2-52
Crank shaft 12-2-52 Flywheel shaft 12-2-52 Thrust shaft 12-2-52 Intermediate shafts 10-3-52 Tube shaft —
Screw shaft 10-3-52 Propeller 19-6-52 Stern tube 19-6-52 Engine seatings 19-6-52 Engine holding down bolts 19-6-52
Completion of fitting sea connections 15-7-52 Completion of pumping arrangement 21-10-52 Engines tried under working conditions 22-10-52
Crank shaft, material O.H. Steel Identification mark CA 6490 Flywheel shaft, material CA 5692 Identification mark — 2627
Thrust shaft, material — Identification mark — Intermediate shafts, material No. 40 Bar Identification marks LL 2627
Tube shaft, material Atlas No. 40 Bar Identification mark LL 2627 & 2628 Screw shaft, material — Identification mark —
Identification marks on air receivers W.I.D., P.V. No. 16, ST. 125, S.D. 6 ins., HT. 131, HR. ELL. IP, TS 55000,
Mtl. Flange, T.P. 500 lbs., S.W.P. 250 lbs.
Welded receivers, state Makers' Name Pressed Steel Tank Co., Milwaukee, Wisconsin, U.S.A.
Is the flash point of the oil to be used over 150°F Diesel ☒
Have the requirements of the Rules for oil fuel pipes and tank fittings been complied with Yes ☒
Full description of fire extinguishing apparatus fitted in machinery spaces 2 - 2 1/2" gallon CO₂ bottles. 3 - 1 quart CO₂ bottles
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 —
What is the special notation desired —
If the notation for ice strengthening is desired, state whether the requirements in this respect have 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, Speed restrictions, etc.) The main Engines were built by Cummins Engine Co., Columbus, Indiana, under Special Survey.
The machinery was installed in accordance with the Rules and has been tested at full power under operating conditions and found satisfactory. The forgings, castings, and other material used, were tested by the Society's Surveyors to Rule Requirements.
In my opinion the machinery is in good and efficient condition and eligible to have the record LMC 10.52, 10.53

The amount of Entry Fee ... £ : :
Special ... £ : : When applied for 19
Donkey Boiler Fee... £ : : When received 19
Travelling Expenses (if any) \$217.89
Committee's Minute THURSDAY 22 JUL 1954
Assigned See p. 1

J. G. White
Engineer Surveyor to Lloyd's Register of Ships

Rpt. No. 4b.
Port of TORONTO, CANADA.

Continuation of Report No. 2173 dated 11-11-52.

M.V. "THE ST. JOSEPH ISLANDER"

List of Plans:

No.	Plan No.	
1.	W-139A - 3	Stern Turbine Details.
2.	W-139A - 3	" " "
3.	W-139A-6	Horizontal Fuel Oil Storage Tanks.
4.	W-139A - 7	Air Sounding and Filling Pipes to Fuel Oil Storage Tanks.
5.	H-25933	Propellers.
6.	1668	Propeller Shaft Half Coupling.
7.	W-129A - 5	M.E. Cooling Water & Oil Fuel Piping.
8.	W-129A - 2	Shafting Arrangements and Details.
9.	W-139 - 5	Diagrammatic Arrangement of Bilge, Ballast, Air and Sounding Piping.

Machinery Certificates

- Interim Machinery Certificate.
- Cleveland Rpt. No. 1508 - Main Propulsion Engines.
- Toronto 22-4-52 - Tail and Intermediate Shafts.
- " 10-6-52 - " " " "
- Newcastle C.38417 - 2 Ram Hand Hydraulic Steering Gears.
- Heat No. B-245/52 - 2 Nickel - Vanadium Steel Propeller.

Auxiliary Machinery

General Service Pump - Size 1.5 x 1.5, Type S.S.A.H.B., G.P.M. 85, Ft. HD. 50'
R.P.M. 3500, Serial No. 31833 - 1 - 1, Stamped Lloyd's 6657, W.H.26-5-52
Maker - Allis Chalmers, Norwood Works, U.S.A.
Electric Motor - Type R; Form BKWJH, HP 3, 60 cyc., PH.1, R.P.M. 3450.
V110/220. Amps 34/17, Serial No. 3995 - L2741.
Sanitary Pump - Maker A.E. Watts, Montreal.
Electric Motor - Type KS, Form AKWJH, H.P. 1/4, cyc.60, PH.1, RPM 1725, V 110, Amp 5.2, Serial No. 1603246
Air Compressor - Model No. KBC - 1/3E, Type No. 3-3105-B, Serial No. 322-CE,
Maker - Kahlenberg Bros. Co. Ltd., Two Rivers, Wisconsin, U.S.A.
Electric Motor - Type R.A., Frame 3B66, H.P. 0.5, V115/230, A8/4
RPM 1725, cyc.60, PH1, REF 12035-1G.
Whistle Air Receiver - Maker - Pressed Steel Tank Co., Milwaukee, Wisconsin, U.S.A.