

# REPORT ON OIL ENGINE MACHINERY.

No. 3884

23 JUN 1934

Received at London Office

Writing Report 27<sup>th</sup> May 1934. When handed in at Local Office 27<sup>th</sup> May 1934. Port of Montreal  
Survey held at Ogdensburg, N.Y. Date, First Survey 16<sup>th</sup> July 1933 Last Survey 8<sup>th</sup> May 1934  
Number of Visits 10

Single Screw vessel "Badger State" ex YUKONDOC Tons Gross 1539 Net 1118  
at Port Glasgow By whom built Clyde S.S. & C. Co. Ltd Yard No. 278 When built 1912  
Engines made at Granite City, Pa By whom made Assumer Gas Engine Co. Engine No. 433 When made 1928-4  
Boilers made at By whom made Boiler No. When made  
Horse Power 925 Owners Federal Motorship Corp. Port belonging to Buffalo  
Horse Power as per Rule 189 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes  
Use for which vessel is intended

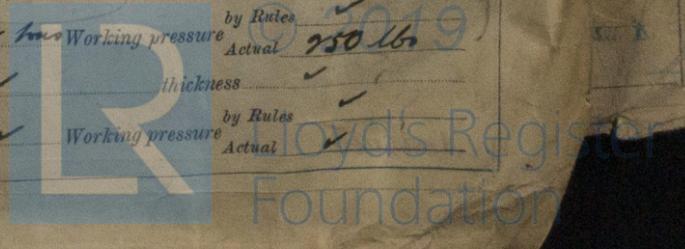
**ENGINES, &c.** Type of Engines Assumer Diesel - Type 7.7. 6 2 or 4 stroke cycle 4 Single or double acting Single  
Maximum pressure in cylinders 550 lbs Diameter of cylinders 18" Length of stroke 22" No. of cylinders 6 No. of cranks 6  
No. of bearings, adjacent to the Crank, measured from inner edge to inner edge 22" Is there a bearing between each crank Yes  
Revolutions per minute 300 Flywheel dia. 3.67' Weight 1.27 Tons Means of ignition Solid injection Kind of fuel used Diesel oil  
Crank Shaft, dia. of journals as per Rule 10.30" 10-12" Crank pin dia. 12 3/4" Crank Webs Mid. length breadth 16" Thickness parallel to axis  
as fitted 12 1/4" Crank Webs Mid. length thickness 7" shrunk Thickness around eye-hole  
Flywheel Shaft, diameter as per Rule 10.30" Intermediate Shafts, diameter as per Rule 6.57" Thrust Shaft, diameter at collars as per Rule  
as fitted 12 3/4" as fitted 8.75" as fitted 9"  
Stern Shaft, diameter as per Rule 10" Is the tube screw shaft fitted with a continuous liner Yes  
as fitted 10" as fitted 10" as fitted  
Stern Liners, thickness in way of bushes as per Rule 5/8" Thickness between bushes as fitted Is the after end of the liner made watertight in the  
as fitted 5/8" as fitted  
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  
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 or other appliance fitted at the after end of the tube  
Shaft If so, state type Length of Bearing in Stern Bush next to and supporting propeller 36"  
Propeller, dia. 8' Pitch 5' No. of blades 4 Material Cast whether Moveable no. Total Developed Surface 26.125 sq. feet  
Method of reversing Engines Direct Is a governor or other arrangement fitted to prevent racing of the engine when disengaged Yes Means of lubrication  
Direct fuel Thickness of cylinder liners 1 1/2" Are the cylinders fitted with safety valves Yes Are the exhaust pipes and silencers water cooled or lagged with  
non-conducting material Yes If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine  
Cooling Water Pumps, No. 2 - 4" x 5" Is the sea suction provided with an efficient strainer which can be cleared within the vessel Yes  
Bilge Pumps worked from the Main Engines, No. 1 Diameter 5" Stroke 8" Can one be overhauled while the other is at work Yes  
Pumps connected to the Main Bilge Line No. and Size 2 - 1 plunger pump 4" x 5" and 1 - 6" x 12" How driven Electric drive  
Ballast Pumps, No. and size 1 - 4" x 5" 1 - 6" x 12" Lubricating Oil Pumps, including Spare Pump, No. and size 4 - 2" gear pumps  
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 Machinery Spaces 2 - 4" dia. in engine space In Pump Room  
In Holds, &c. 6 - 4" dia. 1 - in fore peak 1 - in aft peak 4 - in holds  
Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size Same as above  
Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes Yes Are the Bilge Suctions 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 Yes  
Are all Sea Connections fitted direct on the skin of the ship Yes Are they fitted with Valves or Cocks Valves  
Are they fixed sufficiently 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  
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  
What pipes pass through the bunkers How are they protected  
What 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  
Is 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 Is the Shaft Tunnel watertight Is it fitted with a watertight door worked from  
If a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork

Main Air Compressors, No. One No. of stages Two Diameters 5 1/2" & 2 3/4" Stroke 5" Driven by 15 H.P. Electric motor  
Auxiliary Air Compressors, No. One No. of stages Two Diameters 5 1/2" & 2 3/4" Stroke 5" Driven by 15 H.P. Electric motor  
Small Auxiliary Air Compressors, No. No. of stages Diameter Stroke Driven by  
Scavenging Air Pumps, No. Diameter Stroke Driven by  
Auxiliary Engines crank shafts, diameter as per Rule 5" dia. Position 7 1/2" x 10"

**AIR RECEIVERS:** - Is each receiver, which can be isolated, fitted with a safety valve as per Rule Yes. max. D.C. 7. W.P. 250 lbs. T.P. 400 lbs.  
Can the internal surfaces of the receivers be examined and cleaned Yes Is a drain fitted at the lowest part of each receiver Yes  
High Pressure Air Receivers, No. Two Cubic capacity of each Internal diameter 34" x 10'-0" thickness  
Seamless, lap welded or riveted longitudinal joint Com. joint. Material Steel Range of tensile strength 28.32 lbs Working pressure by Rules Actual 250 lbs  
Starting Air Receivers, No. Total cubic capacity Internal diameter thickness  
Seamless, lap welded or riveted longitudinal joint Material Range of tensile strength Working pressure by Rules Actual

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THE

W297-0264  
W297-162M



IS A DONKEY BOILER FITTED? no

If so, is a report now forwarded?

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

Rpt. 4b

PLANS. Are approved plans forwarded herewith for Shafting no  
(If not, state date of approval)

Receivers

Separate Tanks

Donkey Boilers

General Pumping Arrangements

Oil Fuel Burning Arrangements

SPARE GEAR.

Has the spare gear required by the Rules been supplied? Yes

State the principal additional spare gear supplied Spare parts - Main engines. 1. Cylinder head. 1 piston. 1 crank pin bearing with 4 bolts. 1. Main bearing. 4. Exhaust valves. 2 fuel injectors. 2. fuel pump plungers with bushings. 3. Air starting valves. 1 set piston rings. 3. Piston pin bushings.

Spare parts - Generating Engines. 1- piston 1. crank pin bearing with two bolts. 1. Main bearing 2. fuel injectors 1. Air starting valve. 2 exhaust valves 1. set piston rings. 2 fuel pump plungers with bushings 1. Piston pin with bushings

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 - Cylinders 10<sup>th</sup> Aug 1933 Covers 10<sup>th</sup> Aug 1933 Pistons 10<sup>th</sup> Aug 1933 Rods 10<sup>th</sup> Aug 1933 Connecting rods 10<sup>th</sup> Aug 1933

Crank shaft 10<sup>th</sup> Aug 1933 Flywheel shaft 10<sup>th</sup> Aug 1933 Thrust shaft 10<sup>th</sup> Aug 1933 Intermediate shafts  Tube shaft

Screw shaft 10<sup>th</sup> Aug 1933 Propeller  Stern tube 10<sup>th</sup> Aug 1933 Engine seatings 10<sup>th</sup> Aug 1933 Engines holding down bolts 10<sup>th</sup> Aug 1933

Completion of fitting sea connections 31<sup>st</sup> Aug 1933 Completion of pumping arrangements 31<sup>st</sup> Aug 1933 Engines tried under working conditions Aug 8<sup>th</sup> 1933

Crank shaft, Material  Identification Mark  Flywheel shaft, Material  Identification Mark

Thrust shaft, Material  Identification Mark  Intermediate shafts, Material  Identification Marks

Tube shaft, Material  Identification Mark  Screw shaft, Material  Identification Mark

Is the flash point of the oil to be used over 150° F. Yes

Have the requirements of the Rules for oil fuel pipes and tank fittings 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 duplicate of a previous case?  If so, state name of vessel

General Remarks (State quality of workmanship, opinions as to class, &c.)

This machinery has been in the vessel since 1928. The engines have now been thoroughly overhauled and new parts supplied as required. The machinery has been tested out under full working conditions and proven satisfactory.

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

G. A. Allan  
Engineer Surveyor to Lloyd's Register of Shipping.

FRI. 10 AUG 1934

Committee's Minute

Assigned See Mtl. Rpt. 3886



No. in Reg. Book 9484  
Master  
Engines  
Donkey  
Brake H

No.  
I have to manufa for the of Gr

ier No. 46

12.20.  
square inch  
per cent  
ng Test-  
e fracture  
Inspect

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