

No. 10,194

## REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

SEP 20 1940

Writing Report 14/9/40 19 When handed in at Local Office 18/9/40 19 Port of MANCHESTER  
 Survey held at Manchester Date, First Survey 21/8/40 Last Survey 30/8/40 19  
 on the S/S "EMPIRE BISON" ex "WEST CAWTHON" (Number of Visits 5)  
 at San Pedro Cal. By whom built S. Western S.B. Co. Yard No. When built 1919  
 made at Los Angeles By whom made Llewellyn Iron Works Engine No. When made 1919  
 made at By whom made Boiler No. When made  
 Horse Power Owners Ministry of Shipping Port belonging to London.  
 Horse Power as per Rule Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted YES  
 for which Vessel is intended

NES, &c.—Description of Engines Triple Expansion  
 of Cylinders M.P. 41 7/8 Length of Stroke 48" No. of Cylinders 3 No. of Cranks 3  
 shaft, dia. of journals as per Rule 14" Crank pin dia. 14 1/2" Mid. length breadth shrunk Thickness parallel to axis 9 1/2"  
 as fitted 14" Mid. length thickness Thickness around eye-hole 5 3/4"  
 Intermediate Shafts, diameter as per Rule 13 1/2" Thrust shaft, diameter at collars as per Rule 14"  
 as fitted 13 1/2" as fitted 14"  
 shafts, diameter as per Rule Screw Shaft, diameter as per Rule 15" (13 1/2" complying) Is the screw shaft fitted with a continuous liner NOT EXAMINED.  
 as fitted SEE PLAN.  
 Liners, thickness in way of bushes as per Rule 3/4" Thickness between bushes 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  
 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  
 If so, state type Length of Bearing in Stern Bush next to and supporting propeller  
 Pitch No. of Blades Material whether Moveable Total Developed Surface sq. feet  
 Pumps worked from the Main Engines, No. NONE Diameter Stroke Can one be overhauled while the other is at work  
 Pumps worked from the Main Engines, No. ONE Diameter 5" Stroke 21" Can one be overhauled while the other is at work  
 No. and size TWO 12" x 8" x 18" STROKE Pumps connected to the Main Bilge Line No. and size ONE M.E. RAM. & ONE HORIZ. DUPLEX PUMP.  
 How driven STEAM How driven STEAM  
 Pumps, No. and size ONE HORIZ. DUPLEX PUMP Lubricating Oil Pumps, including Spare Pump, No. and size  
 independent means arranged for circulating water through the Oil Cooler Suctions, connected to both Main Bilge Pumps and Auxiliary  
 Pumps;—In Engine and Boiler Room ENG. ROOM. 1 each p.s. 3 1/2" THRUST RECESS. @ 3 1/2". BOILER ROOM. 1 each p.s. 3 1/2".  
 up Room In Holds, &c. N°1. 2 @ 3 1/2". N°2. 2 @ 3". FWD. C.F. ROOM. 2 @ 3 1/2". AFT C.F. ROOM. 2 @ 3 1/2".  
 2 @ 3 1/2". N°4. 2 @ 3 1/2" TUNNEL WELL. 1 @ 3 1/2" ALSO SEPARATE STEAM PUMP IN TUNNEL DISCHARGING TO ENG. ROOM BILGES - 1 1/4".  
 Water Circulating Pump Direct Bilge Suctions, No. and size 1 @ 10 1/2" Independent Power Pump Direct Suctions to the Engine Room Bilges,  
 size Are all the Bilge Suction Pipes in holds and tunnel well fitted with strum-boxes YES  
 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 SEE OVER PAGE.  
 Sea Connections fitted direct on the skin of the ship YES Are they fitted with Valves or Cocks BOTH  
 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  
 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  
 pipes pass through the bunkers How are they protected  
 pipes pass through the deep tanks BILGE & BALLAST PIPES TO FWD. PART OF SHIP. Have they been tested as per Rule NO  
 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 spaces, or from one  
 ment to another YES Is the Shaft Tunnel watertight YES Is it fitted with a watertight door YES worked from LEVEL OF CYL. TOPS OF MAIN ENG. IN ENG. ROOM.

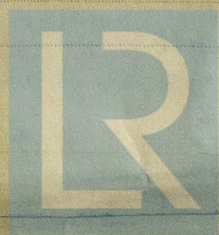
BOILERS, &c.—(Letter for record ) Total Heating Surface of Boilers  
 Draft fitted YES No. and Description of Boilers 3 MULTITUBULAR SCOTCH TYPE. Working Pressure  
 REPORT ON MAIN BOILERS NOW FORWARDED? YES  
 DONKEY BOILER FITTED? NO If so, is a report now forwarded? YES  
 donkey boiler intended to be used for domestic purposes only YES  
 N.S. Are approved plans forwarded herewith for Shafting YES Main Boilers YES Auxiliary Boilers NONE FITTED Donkey Boilers NINE FITTED.  
 (If not state date of approval)  
 aters NONE FITTED General Pumping Arrangements YES Oil fuel Burning Piping Arrangements YES

## SPARE GEAR.

spare gear required by the Rules been supplied. NOT CHECKED.  
 principal additional spare gear supplied

The foregoing is a correct description,

Manufacturer.



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W30-0148



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  
Pistons  
Crank shaft  
Tube shaft  
Stern tube  
Completion of fitting sea connections  
Completion of pumping arrangements  
Main boiler safety valves adjusted  
Crank shaft material  
Intermediate shafts, material  
Screw shaft, material  
Is an installation fitted for burning oil fuel  
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 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

Slides  
Piston Rods  
Thrust shaft  
Screw shaft  
Engine and boiler seatings  
Boilers fixed  
Thickness of adjusting washers  
Identification Mark  
Identification Marks  
Identification Mark  
Steam Pipes, material  
Test pressure  
Date of Test  
Is the flash point of the oil to be used over 150°F.  
If so, have the requirements of the Rules been complied with  
If so, state name of vessel

Covers  
Connecting rods  
Intermediate shafts  
Propeller  
Engines holding down bolts  
Engines tried under steam  
Engines tried under steam  
Identification Mark  
Identification Mark  
Date of Test  
YES  
YES  
No  
UNKNOWN

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

The bilge suction tail pipes in Engine & Boiler Rooms are not straight, & the mudboxes are fitted near to the bilge distribution valve chests. Both mudboxes & tail pipes are, however, considered to be accessible.

Bilge suction tail pipes in holds are not straight & in each case, a valve is fitted which is controllable from deck. Some of these deck controls were found to be unworkable, but all bilges have been seen to be in good order & easily pumped out.

Double-bottom tanks N<sup>o</sup> 1-2-3-5-6 and F.P. tank are used for carriage of fuel oil & each can be pumped up by Ballast Pump or Oil Fuel Transfer Pump. Arrangements embodying portable branch pieces or blank flanges are made for isolating as required.

N<sup>o</sup> 4 D.B.T. & A.P. Tank are used for fresh water & have no connection to Ballast Pump - a separate F.W. Pump being used. These tanks cannot be pumped up.

Suction & Filling pipes.	Air Pipes	Pump Connections.
F.P. Tank 1 @ 4" φ	F.P. Tank. 1 @ 4" φ	Bilge (Duplex) draws from:- Boiler bottoms, Sea, Bilge Main, Eng. & Bl. Room Bilges.
N <sup>o</sup> 1 D.B.T. 2 @ 4" φ	N <sup>o</sup> 1 D.B.T. 2 @ 4" φ	- discharges to:- Overboard, deck & main condenser. & Eng. & Bl. room fire hoses.
N <sup>o</sup> 2 - 2 @ 4" φ	N <sup>o</sup> 2 - 2 @ 3" φ	Ballast pump draws from:- Sea, Tanks except N <sup>o</sup> 4 D.B.T. & A.P.T. & Bilge Main.
N <sup>o</sup> 3 - 2 @ 4" φ	N <sup>o</sup> 3 - 4 @ 3" φ	- discharges to:- Tanks & overboard.
Duplex tank 2 @ 4" φ	Duplex tank 2 @ 3" φ	Oil Fuel Transfer pump draws from & discharges to all O.F. Tanks. Discharge line has connections for filling tanks from deck with suitable shut. off valves.
N <sup>o</sup> 5 D.B.T. 2 @ 4" φ	N <sup>o</sup> 5 D.B.T. 2 @ 4" φ	
N <sup>o</sup> 6 - 2 @ 4" φ	N <sup>o</sup> 6 - 2 @ 4" φ	
Settling Tanks 2 @ 3 1/2" φ built into Duplex tank	Settling Tanks. 2 @ 3" φ All the above fitted with foam necks, wire gauge & a ball type N.R. Valve inside.	

The amount of Entry Fee ... £ : :  
Special ... £ 20 : :  
Donkey Boiler Fee ... £ : :  
Travelling Expenses (if any) £ : :  
When applied for from London 23-1-1941  
When received, 19

H. Knowles.

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned

No action



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