

REPORT ON OIL ENGINE MACHINERY.

No. 77652

Date of writing Report 10 When handed in at Local Office 13/3/10 Port of NEWCASTLE-ON-TYNE Received at London Office SAT 15 MAR. 1924

No. in Survey held at Newcastle Date, First Survey 22 March 1922 Last Survey 4 March 1924 Reg. Book. Number of Visits 116.

41450 on the ^{Single} Twin _{Triple} Screw vessels WELLFIELD Tons (Gross) (Net)

Master Built at Newcastle By whom built *James & Co. S. B. Co. Ltd.* No. 225 When built 1924 Engines made at Newcastle By whom made *North Eastern Marine Eng. Co. Ltd.* Engine No. 2505 When made 1924 Donkey Boilers made at Newcastle By whom made *North Eastern Marine Eng. Co. Ltd.* Boiler No. 2005 When made 1924 Brake Horse Power Owners *Northern Petroleum Tank S.S. Co. Ltd.* Port belonging to Newcastle Nom. Horse Power as per Rule 456 Is Refrigerating Machinery fitted for cargo purposes No. Is Electric Light fitted Yes

ALL ENGINES, &c.—Type of Engines *Marine Diesel* *Single* 2 or 4 stroke cycle 4 Single or double acting *Single*

Maximum pressure in cylinders 500 lbs No. of cylinders 6 *6 ea. Eng.* No. of cranks 6 *6 ea. Eng.* Diameter of cylinders 560 mm *22 1/2*

Length of stroke *39 1/2* 1000 mm Revolutions per minute 125 Means of ignition *Compression* Kind of fuel used

Is there a bearing between each crank Yes Span of bearings (Page 92, Section 2, par. 7 of Rules) 770 mm

Distance between centres of main bearings 1250 mm Is a flywheel fitted Yes Diameter of crank shaft journals as per Rule 345.9 mm as fitted 350 mm

Diameter of crank pins 350 mm Breadth of crank webs as per Rule 461.2 mm as fitted 710 mm Thickness of ditto as per Rule 194 mm as fitted 220 mm

Diameter of flywheel shaft as per Rule 13.65 mm as fitted 350 mm Diameter of tunnel shaft as per Rule 9.375 mm as fitted 11 mm Diameter of thrust shaft as per Rule 9.84 mm as fitted 11 1/2 mm

Diameter of screw shaft as per Rule 10.22 mm as fitted 12/4 Is the screw shaft fitted with a continuous liner the whole length of the stern tube Yes

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 joints burned

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 If without liners, is the shaft arranged to run in oil

Type of outer gland fitted to stern tube none Length of stern bush 45 mm Diameter of propeller 12'-0"

Pitch of propeller 10'-6" No. of blades state whether moveable no Total surface 43 square feet

Method of reversing *Levo-motor* Is a governor or other arrangement fitted to prevent racing of the engine when declutched Yes Thickness of cylinder liners 50 mm

Are the cylinders fitted with safety valves Yes Means of lubrication *mechanical* Are the exhaust pipes and silencers water cooled or lagged with *triple jackets for length of engine - lagged beyond non-conducting material* If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine

Exhaust led up funnel No. of cooling water pumps 2 Is the sea suction provided with an efficient strainer which can be cleared within the vessel Yes

No. of bilge pumps fitted to the main engines Two Diameter of ditto 90 mm Stroke 400 mm

Can one be overhauled while the other is of work Yes No. of auxiliary pumps connected to the main bilge lines one How driven *Steam*

Sizes of pumps *Duplex Ballast 7" x 8" x 8"* No. and sizes of suctions connected to both main bilge pumps and auxiliary bilge pumps:—In engine room 2-3/2"

and in holds, etc. none No. of ballast pumps one How driven *Steam* Sizes of pumps 7" x 8" x 8" *Duplex*

Is the ballast pump fitted with a direct suction from the engine room bilges Yes State size 3 1/2" Is a separate auxiliary pump suction fitted in engine room and size Yes 6"

Are all the bilge suction pipes fitted with roses Yes Are the roses in Engine Room always accessible Yes

Are the stices on Engine Room bulkheads always accessible none Are all connections with the sea direct on the skin of the ship Yes

Are they valves or cocks Both Are they fitted sufficiently high on the ship's side to be seen without lifting the floor plates Yes

Are the discharge pipes 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 all pipes, cocks, valves and pumps in connection with the machinery accessible at all times Yes Are the bilge suction pipes, cocks and valves arranged so as to prevent any communication between the sea and the bilges Yes Is the screw shaft tunnel watertight none Is it fitted with a watertight door

Is it 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

No. of main air compressors Two No. of stages 3 Diameters 90 mm 230 mm 400 mm Stroke 400 mm Driven by *Revers M.E.*

No. of auxiliary air compressors Two No. of stages 3 Diameters Stroke Driven by *Steam*

No. of small auxiliary air compressors none No. of stages Diameters Stroke Driven by

No. of scavenging air pumps none Diameter Stroke Driven by

Diameter of auxiliary Diesel Engine crank shafts as per Rule none Are the air compressors and their coolers made so as to be easy of access Yes

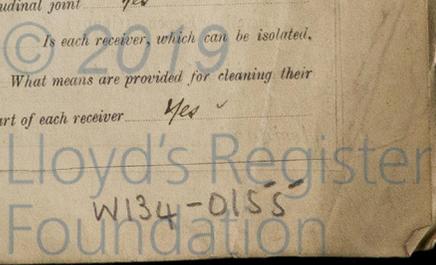
AIR RECEIVERS:—No. of high pressure air receivers Two Internal diameter 15 3/4" Cubic capacity of each 874 cu ft

material *Steel* Seamless, lap welded or riveted longitudinal joint *Seamless* Range of tensile strength 28/32 Tons

thickness 5/8" working pressure by Rules 1095 lbs No. of starting air receivers Two Internal diameter 6 1/4"

Total cubic capacity 1400 cu ft Material *Steel* Seamless, lap welded or riveted longitudinal joint Yes

Range of tensile strength 28/32 Tons thickness 2/32" Working pressure by rules 303 1/2 Is each receiver, which can be isolated, fitted with a safety valve as per Rule Yes Can the internal surfaces of the receivers be examined Yes What means are provided for cleaning their inner surfaces *Steam* Is there a drain arrangement fitted at the lowest part of each receiver Yes



IS A DONKEY BOILER FITTED? *Yes*

If so, is a report now forwarded? *Yes*

HYDRAULIC TESTS:-

DESCRIPTION.	DATE OF TEST.	WORKING PRESSURE.	TEST PRESSURE.	STAMPED.	REMARKS.
ENGINE CYLINDERS	24.5.23 & 5.7.23	500	1065 lbs	RLA	
COVERS	4.7.23 & 26.7.23	15	30	RLA M.R	
JACKETS	4.7.23 & 26.7.23	15	30	RLA M.R	
PISTON WATER PASSAGES	14.8.23 & 24.8.23	5	30	M.R	
MAIN COMPRESSORS—1st STAGE	13.7.23 - 17.7.23	55	210	R.L.A	
2nd	13.6.23 - 7.9.23	240	640	R.L.A. M.R	
3rd	13.6.23 - 10.9.23	900	1850	R.L.A M.R	
AIR RECEIVERS—STARTING	12.7.23 & 27.8.23	900	2000	R.L.A. M.R	
INJECTION	27.8.23	900	2000	M.R.	
AIR PIPES	1.10.23 & 8.10.23	900	2000	M.R.	
FUEL PIPES	1.10.23 & 8.10.23	900	2000	M.R	
FUEL PUMPS	30.7.23	900	2000	M.R.	
SILENCER	✓	5	✓		
WATER JACKET	✓	nil	✓		
SEPARATE FUEL TANKS		25ft head			

PLANS. Are approved plans forwarded herewith for shafting *Yes* Receivers *Yes* Separate Tanks *Yes*

SPARE GEAR In accordance with the rule requirements and with additions in excess of requirements please see appended lists.

The foregoing is a correct description.

THE NORTH EASTERN MARINE ENGINEERING Co., LTD.

J. G. Harrison Manufacturer.

Dates of Survey while building	1923	Secretary	1923
During progress of work in shops -	Mar. 22, 30, Apr. 11, 15, 17, May 29, July 12, 18, Dec. 28		Jan. 3, 17, 22, Feb. 13, 20, 22, 26, 28, Mar. 6, 8, 13, 14, 22, 26, Apr. 6, 9, 10, 24, May 16, 23, 24, 28, 29, 30, 31, June 4, 5, 7, 11, 12, 13, 14, July 3, 4, 5, 9, 12, 13, 16, 17, 24, 26, 27, 30, 31, Aug. 1, 3, 9, 10, 13, 14, 22, 23, 24, 29, 31, Sep. 4, 5, 6, 7, 11, 14, 18, 20, 25, Oct. 1, 5, 8, 10, 15, 16, 17, 22, 24, 25, 26, 29, Nov. 5, 7, 8, 9, 14, 15, 20, 27, 28, 29, Dec. 11, 18, 20, 21, 1924 Jan. 3, 10, 11, 15, 24, 31, Feb. 4, 5, 7
During erection on board vessel -	Mar. 3, 4		
Total No. of visits	116		
Dates of Examination of principal parts—Cylinders	24.5.23 & 5.7.23	Covers	22.8.23
Crank shaft	3.7.23	Thrust shaft	22.2.23
Engines holding down bolts	24.1.24	Completion of pumping arrangements	8.2.24
Completion of fitting sea connections	23.8.23	Stern tube	23.8.23
Material of crank shaft	S.M. Steel Identification Mark on Do. 6188N	Material of thrust shaft	S.M. Steel Identification Mark on Do. 6474N
Material of tunnel shafts	S.M. Steel Identification Marks on Do. 6494N	Material of screw shafts	S.M. Steel Identification Marks on Do. 6494N
Is the flash point of the oil to be used over 150° F.	No.		
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, &c. The machinery of this vessel has been constructed under special survey. The workmanship and materials are found and good. The main engines were tested out in the shops and after being efficiently installed on the vessel were again tried out at mooring trials and sea-trials with satisfactory results. The auxiliary machinery was satisfactorily tried out & the safety valves of the Donkey Boiler were adjusted under steam. In our opinion the vessel is eligible for notation in the Society's Register Book - L.M.C. 3.24 C.L.

The amount of Entry Fee	£ 4 : -	When applied for	14 MAR 1924
Special	£ 93 : 8 -	When received	29 MAR 1924
Donkey Boiler Fee	£ 15 : 16		
Travelling Expenses (if any)	£		

W. H. Jones & Francis Dixon
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 27 MAR. 1924
Assigned + L.M.C. 3.24 oil engines C.L.

Certificate (if required) to be sent to NEWCASTLE-ON-TYNE

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

CERTIFICATE WRITTEN

Lloyd's Register Foundation