

REPORT ON OIL ENGINE MACHINERY.

No. **74783**
WFD. 28 SEP. 1921

Date of writing Report 19. When handed in at Local Office **27 SEP 1921** Port of **Newcastle-on-Tyne**
No. in Survey held at **NEWCASTLE-ON-TYNE** Date, First Survey **12th August 1920** Last Survey **7th Sept 1921**
Reg. Book. **36690** on the **Single** **Twin M.S.** Screw vessel **CONDE DE CHURRUCA** Number of Visits **54**

Master _____ Built at **Newcastle** By whom built **Amshong Whitworth & Co.** Yard No. **984** When built **1921**
Engines made at **Winterthur** By whom made **Sulzer Freres S.A.** Engine No. **2835** When made **1920**
Donkey Boiler made at **Newcastle** By whom made **Amshong Whitworth & Co. Ltd.** Boiler No. **45** When made **1921**
Brake Horse Power **2500** Owners **Sociedad Commercial de Oriente** Port belonging to **S. Sebastian**
Nom. Horse Power as per Rule **680** Is Refrigerating Machinery fitted for cargo purposes **No** Is Electric Light fitted **Yes**

OIL ENGINES, &c.—Type of Engines **Sulzer maine Diesel** 2 or 4 stroke cycle **2** Single or double acting **Single**
Maximum pressure in cylinders _____ No. of cylinders **8** No. of cranks _____ Diameter of cylinders _____
Length of stroke _____ Revolutions per minute _____ Means of ignition _____ Kind of fuel used _____
Is there a bearing between each crank _____ Span of bearings (Page 92, Section 2, par. 7 of Rules) _____

Distance between centres of main bearings _____ Is a flywheel fitted _____ Diameter of crank shaft journals _____
Diameter of crank pins _____ Breadth of crank webs _____ Thickness of ditto _____
Diameter of flywheel shaft _____ Diameter of tunnel shaft _____ Diameter of thrust shaft _____
Diameter of screw shaft _____ Is the screw shaft fitted with a continuous liner the whole length of the stern tube _____

Is the liner made watertight in the propeller boss _____ 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 no liners are fitted, is the shaft lapped or protected between the liners _____ If without liners, is the shaft arranged to run in oil _____
Diameter of outer gland fitted to stern tube **B.R. Vickin** Length of stern bush _____ Diameter of propeller _____
Diameter of propeller **13'-6"** No. of blades **3aw** state whether moveable **Yes** Total surface **52 sq** square feet

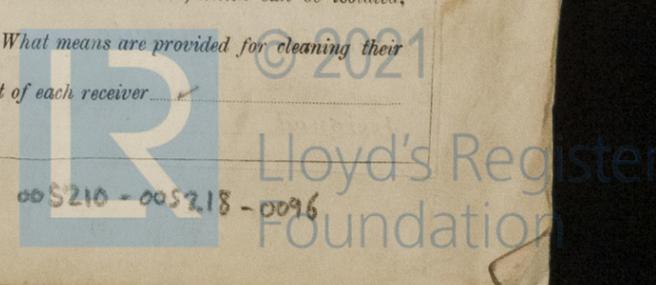
Is a governor or other arrangement fitted to prevent racing of the engine when declutched _____ Thickness of cylinder liners _____
Are the cylinders fitted with safety valves _____ Means of lubrication _____ Are the exhaust pipes and silencers water cooled or lagged with _____
conducting material **Yes** If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine _____
Is the exhaust to funnel _____ No. of cooling water pumps _____ Is the sea suction provided with an efficient strainer which can be cleared _____

Is there a bilge pump fitted to the main engines _____ Diameter of ditto _____ Stroke _____
No. of auxiliary pumps connected to the main bilge lines **Three** How driven **Electric**
No. and sizes of suction pipes connected to both main bilge pumps and auxiliary bilge pumps:—In engine room **5-3 1/2"**
No. of ballast pumps **One** How driven **Electric** Sizes of pumps **Centrifugal-5"**

Is a ballast pump fitted with a direct suction from the engine room bilges _____ State size **5"** Is a separate auxiliary pump suction fitted in _____
Are all the bilge suction pipes fitted with roses **Yes** Are the roses in Engine Room always accessible **Yes**
Are the sluices on Engine Room bulkheads always accessible **none** Are all connections with the sea direct on the skin of the ship **Yes**
Are they fixed 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 **above** 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 _____
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 _____ No. of stages _____ Diameters _____ Stroke _____ Driven by _____
No. of auxiliary air compressors _____ No. of stages _____ Diameters _____ Stroke _____ Driven by _____
No. of small auxiliary air compressors _____ No. of stages _____ Diameters _____ Stroke _____ Driven by _____
No. of scavenging air pumps _____ Diameter _____ Stroke _____ Driven by _____

Are the air compressors and their coolers made so as to be easy of access **Yes**
RECEIVERS:—No. of high pressure air receivers _____ Internal diameter _____ Cubic capacity of each _____
Seamless, lap welded or riveted longitudinal joint _____ Range of tensile strength _____
working pressure by Rules _____ No. of starting air receivers _____ Internal diameter _____
Material _____ Seamless, lap welded or riveted longitudinal joint _____
thickness _____ Working pressure by rules _____ Is each receiver, which can be isolated, _____
with a safety valve as per Rule _____ Can the internal surfaces of the receivers be examined _____ What means are provided for cleaning their _____
inter surfaces _____ Is there a drain arrangement fitted at the lowest part of each receiver _____



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					
COVERS					
JACKETS					
PISTON WATER PASSAGES					
MAIN COMPRESSORS—1st STAGE					
2nd					
3rd					
AIR RECEIVERS—STARTING					
INJECTION	14.7.21	70 ATMOS.	140 ATMOS.	R.L.A.	
AIR PIPES	11.6.21 & 7.21	1000 LBS	2000 LBS	R.L.A.	
FUEL PIPES					
FUEL PUMPS					
SILENCER					
WATER JACKET					
SEPARATE FUEL TANKS ... 2-SETTLING	10.6.21		15 LBS	R.L.A.	

PLANS. Are approved plans forwarded herewith for shafting (If not, state date of approval)

Receivers

Separate Tanks

SPARE GEAR 1 Cylinder Cover with studs; 2 Combined Fuel & Air valves complete without advance valves; 2 Advance Air Valves; 4 Fuel Needle Valves with guides; 2 Fuel Pulverizers complete; 2 Fuel Pulverizer plates for fuel valve; 24 distance rings; 4 Spray plates; 1 Working with studs but without studs; 14 Piston rings; 1 Working Cylinder with oil wiper; 2 Oil wiper rings; 2 Oil wiper rings; 1 pair skew gear for bottom of shaft; 1 pair skew gear for scavenge valve shaft; 1 pair skew gear for camshaft; 1 Connecting rod bottom end bearing with liners; 2 Bottom End Bolts & nuts for main bearing; 4 valves with liners; 4 Top End Bolts & nuts; 1 Main Bearing (2 Half-Brasses); 1 Compressor shaft bearing (2 Half-Brasses); 2 nuts for main bearing; 3 Crankshaft coupling bolts; 18 Cylinder cover studs & nuts; 1 Rotating slide scavenge air valve; 4 piston cooling water pipes; 4 cooling water pipes; 4 water pipes; 2 Fuel Cam insertion pieces; 4 Cam rollers & pins; 4 fuel pump plungers with bushes; 2 valves for fuel & return valves; 4 Crosshead lubricating pipes.

The foregoing is a correct description.

SIR W. G. ARMSTRONG, WHITWORTH & CO. LIMITED. Brown & Shauwy Manufacturer.

Dates of Survey while building	During progress of work in shops	During erection on board vessel	Total No. of visits
	1920 Aug 12, Sep 9, Oct 7, 13, Nov 5, Feb 10, Apr 11, 19, May 9, 10, 11, 15, 19, 23, 24, Jun 6, 8, 9, 10, 15, 17, 20, 27, 29, 30	1921 5, 7, 11, 13, 14, 15, 16, 20, 21, 22, 25, 26, 27, Aug 9, 10, 12, 13, 16, 22, 25, 26, 31, Sep 1, 2, 3, 5, 7	54

Dates of Examination of principal parts	Cylinders	Covers	Pistons	Rods	Connecting rods
	11.4.21	11.4.21	11.4.21	23.5.21	23.5.21
	11.4.21	11.4.21	19.5.21	19.5.21	19.5.21
	19.5.21	19.5.21	19.5.21	19.5.21	19.5.21
	5.7.21	5.7.21	7.9.21	7.9.21	16.8.21
	19.5.21	19.5.21	5.7.21	14.7.21	14.7.21
	S.M. Steel	Identification Mark on Do. 2835	S.M. Steel	Identification Mark on Do. 1293	1293
	FLY WHEEL SHAFTS S.M. Steel	718 L.A. 1296 R.L.A.	Identification Marks on Do. 1294	1294	1294
	S.M. Steel	Identification Marks on Do. 1294	R.L.A.	Material of screw shafts S.M. Steel	Identification Marks on Do. 1042 R.L.A.

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

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. Spare Gear (cont'd) Scavenge pumps & Compressor Gear:— 1 B.E bearing Top End Bearings: 1 Compressor T.E. Bearing. 1 S.P. piston ring. 5 1/2 Stage H.P. Compressor rings: 6 2nd Stage rings: 8 3rd Stage rings: 1 Valve for 2nd Stage with 2 2nd Stage valves: 18 Bolts & 18 nuts. Valve rings for 1st & 2nd Stages. Oil & Water pumps: 3 Piston rings for water & 3 for oil pumps. 4 Valve seats for water pumps. 2 Cooling pumps: 6 for Oil Bridge pump. 1 for Crosshead lub pump. 4 Valves for Cylinder lub pump. General Copper joints - Oil & Cooler tubes - Air & fuel pipes - Liners - nipples - flanges - jointing - packing - Bolts nuts & Lins.

The main Engines were not built under special Survey. All parts were opened up and examined - found in order - The Engines & Aux^y machinery were efficiently installed - were tried out under working conditions satisfactorily - All oil, water & air pressure lines, valves, tanks & pipes were tested by hydraulic pressure. In my opinion the vessel is eligible to be classed L.M.C. 9.21 in the Register Book.

The amount of Entry Fee	£ 6 : 0	When applied for,	
Special	£ 59 : 0	When received,	19
Donkey Boiler Fee	£ :		
Travelling Expenses (if any)	£ :		

R. Lee Ames. Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute FRI. OCT. 7. 1921

Assigned L. M. C. 9.21 Oil engines

MACHINERY DEPT. WHITWORTH



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