

REPORT ON MACHINERY.

No. 15,852.

Received at London Office

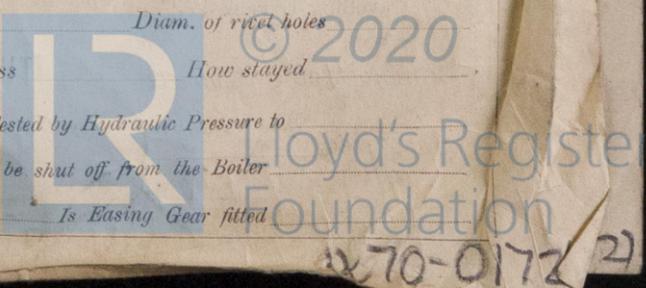
Date of writing Report 23-10-1920 When handed in at Local Office 23-10-1920 Port of Leith
 Date, First Survey 26-2-20 Last Survey 28-10-1920
 (Number of Visits 23)
 Tons { Gross 1019.95
 Net 529.75
 When built 1914
 when made 1914
 Is Electric Light fitted Yes
 Is Refrigerating Machinery fitted for cargo purposes No

GINES, &c.—Description of Engine Twin oil driven Diesel (2 cycle) No. of Cylinders 6 No. of Cranks 4
 Dia. of Cylinders 12" Length of Stroke 20" Revs. per minute 170 Dia. of Screw shaft 6.5" Material of screw shaft Steel
 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 water tight
 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 ✓
 Are the liners fitted, is the shaft lapped or protected between the liners as above Length of stern bush Outer 2-27/16" two
Inner 2-3/16"
 Dia. of Tunnel shaft 6.75" Dia. of Crank shaft journals 6" Dia. of Crank pin 8" Size of Crank webs 10 1/4" Dia. of thrust shaft under
 Dia. of screw 6-6" Pitch of Screw 6-7.5" No. of Blades 3 State whether moveable No Total surface 11 sq ft
 No. of pumps 2 Diameter of ditto - Stroke - Can one be overhauled while the other is at work Yes
 No. of Bilge pumps 2 Diameter of ditto 8" Stroke 8" Can one be overhauled while the other is at work Yes
 No. of Donkey Engines - Sizes of Pumps - No. and size of Suctions connected to both Bilge and Donkey pumps
 Engine Room 8 Room bilges two 4 1/2" one 4" after peakers 4 1/2" 4" In Holds, &c.
the bottom tanks two 4 1/2" one 4" after after deck tanks two 5 1/4" 4 1/2"
 No. of Bilge Injections 1 sizes 4 5/8" 3 5/8" Connected to circulating pump Yes Is a separate Donkey Suction fitted in Engine room & size Yes 4.5"
 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 Valves or Cocks Valves
 Are they fixed sufficiently high on the ship's side to be seen without lifting the plates Yes Are the Discharge Pipes above or below the deep water line Both
 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
 Are all pipes carried through the bunkers ✓ How are they protected ✓
 Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and boiler mountings 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 ✓ worked from ✓

MANUFACTURERS, &c.—(Letter for record) () Manufacturers of Steel

Working Pressure - Tested by hydraulic pressure to - Date of test - No. of Certificate -
 Can each boiler be worked separately - Area of fire grate in each boiler - No. and Description of Safety Valves to -
 boiler - Area of each valve - Pressure to which they are adjusted - Are they fitted with easing gear -
 Smallest distance between boilers or uptakes and bunkers or woodwork - Mean dia. of boilers - Length - Material of shell plates -
 Thickness - Range of tensile strength - Are the shell plates welded or flanged - Descrip. of riveting: cir. seams -
 seams - Diameter of rivet holes in long. seams - Pitch of rivets - Lap of plates or width of butt straps -
 Percentages of strength of longitudinal joint - Working pressure of shell by rules - Size of manhole in shell -
 of compensating ring - No. and Description of Furnaces in each boiler - Material - Outside diameter -
 Thickness of plain part - Thickness of plates - Description of longitudinal joint - No. of strengthening rings -
 Working pressure of furnace by the rules - Combustion chamber plates: Material - Thickness: Sides - Back - Top - Bottom -
 Working pressure of stays to ditto: Sides - Back - Top - If stays are fitted with nuts or riveted heads - Working pressure by rules -
 Material of stays - Area at smallest part - Area supported by each stay - Working pressure by rules - End plates in steam space: -
 Material - Thickness - Pitch of stays - How are stays secured - Working pressure by rules - Material of stays -
 Area at smallest part - Area supported by each stay - Working pressure by rules - Material of Front plates at bottom -
 Thickness - Material of Lower back plate - Thickness - Greatest pitch of stays - Working pressure of plate by rules -
 Material of tubes - Pitch of tubes - Material of tube plates - Thickness: Front - Back - Mean pitch of stays -
 Working pressures across wide water spaces - Working pressures by rules - Girders to Chamber tops: Material - Depth and -
 Thickness of girder at centre - Length as per rule - Distance apart - Number and pitch of stays in each -
 Working pressure by rules - Steam dome: description of joint to shell - % of strength of joint -
 Thickness of shell plates - Material - Description of longitudinal joint - Diam. of rivet holes -
 Working pressure of shell by rules - Crown plates - Thickness - How stayed -

SUPERHEATER. Type - Date of Approval of Plan - Tested by Hydraulic Pressure to -
 Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler -
 Pressure to which each is adjusted - Is Easing Gear fitted -



IS A DONKEY BOILER FITTED? *Yes*

If so, is a report now forwarded *no survey at present*

SPARE GEAR. State the articles supplied:— One cylinder cover for main engine with all valves, valve seats & springs complete set of valves, valve seats, springs etc for one cylinder of the main & auxiliary diesel engines & fuel needles and for half the number of cylinders of each engine. Piston complete with rings, skirts & nuts for main engine. One set of pistons for one piston of main & auxiliary diesel engines. Set of main & auxiliary wheels for one main engine, to connecting rod, or piston rod to cut both trucks for main & auxiliary diesel engines. Set of main bearing both trucks for main & auxiliary diesel engines. Set of coupling bolts for crank shaft. Set of piston rings for main & auxiliary compressors, also 1 half set of valves, fuel pump complete for main engine also for auxiliary diesel engine. Set of valves for circulating pump also for one bilge pump. Set of scavenging pump valves. A quantity of screws, bolts & nuts, also set of cylinder cover skirts & nuts. Lengths of pipes for fuel delivery from tanks to the cylinders etc

The foregoing is a correct description.

Manufacturer.

Machinery inspected by Admiralty Surveyors during construction, & while fitting on board

Is the approved plan of main boiler forwarded herewith *no*

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

Have the requirements of Section 49 of the Rules been complied with *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.) *now done. The main & auxiliary engines opened up, & the cylinders, heads, pistons, fuel & scavenging valves, cranks, connecting rods, propellers, sea connections & fastenings, main & auxiliary compressors with clapping, evaporator & coils & valves, filters & coolers, oil heaters & suction, generators, dynamo engine, wiring throughout the vessel, silencers, steering engine & its fittings, also windlass examined. The following parts have been tested & found tight & satisfactory: Air reservoir bottles to 2500 lbs & 4 air coolers 2 port & 2 starboard to 2000 lbs respectively. Port & starboard oil coolers to 25 lbs. New donkey boiler main steam pipe fitted & tested to 200 lbs.*

Repairs. The port & starboard main engine crank shafts lifted & all lower halves of main bearing brasses re-metalled & shafts re-braded. No 1 & 2 pistons of starboard main engine renewed. Bottom half brasses for rocking shaft of main engine renewed. 10 piston rings renewed for starboard main engine.

The amount of Entry Fee	£	:	:	When applied for.
Special	£	26	5	herald to Lth.
Donkey Boiler Fee	£	:	:	When received.
Travelling Expenses (if any)	£	21	12	Feb.

Committee's Minute *TUE. NOV. 23 1920*

Assigned *Lth. 10.20*

oil engines.

Rpt. Ga.

Port of *Lith.*

Continuation of Report No. 15852, dated 23-10-20.

on the "C. Sage" 47 tons.

Repairs continued. No 4 piston & guide of port main engine renewed. Intermediate shaft bearing of cargo pump re-metalled, & suction & delivery valves & springs renewed. Crank shaft & piston rings of port generator renewed. Small discharge valve chest of port fuel pump renewed. Valves of fire & bilge pumps renewed. The electric light wiring overhauled, & repaired or renewed where necessary. Windlass main shaft disconnected, & straightened & a number of minor repairs to same effect. Piston rings renewed in first stage air compressor. Cylinder of starboard oil cargo pump bored out, new piston, rings to same fitted. New oil traps fitted under oil pumps. Port & starboard circulating pump discharge valves renewed. Piston rings renewed in starboard generator. Impeller shafts of port & starboard centrifugal pumps renewed. New dynamo engine fitted on board. Donkey boiler waste steam pipe renewed. New donkey boiler fitted to burn oil fuel & safety valves adjusted under steam to 100 lbs pressure. Marks on boiler compound will certificate.

All pressure gauges overhauled & tested, & a number of minor repairs effected.

List of auxiliary pumps on board

Two motor driven fire & bilge pumps in engine room, dia 6" stroke 6" fitted to pumps from after peak, engine room bilges, & sea. Donkey boiler feed pump in boiler room dia 2" stroke 4" to pumps from feed tank in boiler room. Donkey pumps on fuel installation in boiler room to pumps from fuel tanks in boiler room. Two motor driven oil cargo pumps in pump room dia 15" stroke 12" to pumps from cargo tanks. Steam driven cargo pump in pump room dia 12 1/2" stroke 21" pumps from cargo tanks. Two motor driven centrifugal ballast pumps in upper hold forward, pumps from fore peak, ballast tank, cofferdam, & bilges. Semi-stoway hand bilge pump in pump room, to pumps from pump room bilges. Semi-stoway hand pump for boiler fuel oil in pump room, pumps from double bottom tanks & after cofferdam. Horizontal duplex steam driven pumps dia 4" stroke 4" pumps from cofferdam & double bottom tanks.

The machinery tried under working conditions in the hold for several hours both ahead & astern, & found to work well.

This vessel's machinery is eligible in our opinion for classification with notation of L.M.C 10-20 subject to the steering engine appliances being made to conform to the Society's requirements in terms of the contract's letter of the 19th inst to the new owners.

C. Martell & J.R. Williamson

See correspondence in papers

FRI. DEC. 24 1920
FRI. FEB. 11 1921
FRI. FEB. 25 1921

