

REPORT ON MACHINERY.

No. 15852.

Received at London Office

Date of writing Report 23-10-1920 When handed in at Local Office 23-10-1920 Port of Leith

To. in Survey held at Leith Date, First Survey 26-2-20 Last Survey 28-10-1920
 Reg. Book. on the Twin Screw Oil Motor Ship Osage ex Terol (Number of Visits 23)

Master Govan Built at Dunbarton By whom built H.M. Dockyard Tons { Gross 1019.95
 Engines made at Govan By whom made Fairfield & Engineering Co Ltd Net 528.75
 Boilers made at Govan By whom made Fairfield & Engineering Co Ltd When built 1914
 Registered Horse Power 129 Owners Anglo American Oil Co when made 1914
 Port belonging to London
 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted yes

GINES, &c.—Description of Engines Twin oil driven Diesel (2 cycle) No. of Cylinders 6 as per rule as fitted 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
 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 no 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 no
 Is the shaft lapped or protected between the liners as above Length of stern bush 2-2 1/2"
 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 Bilge pumps 2 Diameter of ditto 6" Stroke 8" Can one be overhauled while the other is at work yes
 No. of Donkey Engines 2 Sizes of Pumps 4 1/2" No. and size of Suctions connected to both Bilge and Donkey pumps
 Engine Room 2 In Holds, &c. 2
 of Bilge Injections 1 sizes 4 1/2" Connected to circulating pump yes Is a separate Donkey Suction fitted in Engine room & size yes 4.5"
 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
 all connections with the sea direct on the skin of the ship yes Are they Valves or Cocks Valves
 they fixed sufficiently high on the ship's side to be seen without lifting the yes Are the Discharge Pipes above or below the deep water line both
 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
 at pipes are carried through the bunkers yes How are they protected yes
 all Pipes, Cocks, Valves, and Pumps in connection with the machinery and boiler mountings accessible at all times yes
 the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges yes
 the Screw Shaft Tunnel watertight none Is it fitted with a watertight door yes worked from yes

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

Is Forced Draft fitted No. and Description of Boilers

Working Pressure Tested by hydraulic pressure to Date of test No. of Certificate

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

Greatest 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 rivets 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

th of plain part top Thickness of plates crown Description of longitudinal joint No. of strengthening rings

bottom Thickness of plates bottom

Working pressure of furnace by the rules Combustion chamber plates: Material Thickness: Sides Back Top Bottom

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

at smallest part Area supported by each stay Working pressure by rules Material of Front plates at bottom

ness 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

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

Material Thickness of shell plates Material Description of longitudinal joint Diam. of rivet holes

Material of rivets Working pressure of shell by rules Crown plates Thickness How stayed

SUPERHEATER. Type Date of Approval of Plan Tested by Hydraulic Pressure to

Material of Test Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler

Material of Safety Valve 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 Bar*

SPARE GEAR. State the articles supplied:— One cylinder cover for main engines 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. 1 piston complete with rings, studs & 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, connecting rods, or piston rods for cut bolts for main & auxiliary diesel engines. Set of main bearing bolts 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 for auxiliary diesel engine. Set of valves for circulating pump also for one bilge pump. Set of scavenging pump valves. A quantity of various bolts & nuts, also set of cylinder cover studs & nuts. Lengths of pipes for fuel delivery from tanks to the cylinders etc

The foregoing is a correct description,

Manufacturer.

Dates of Survey while building	During progress of work in shops --	Machinery inspected by Admiralty Surveyors during construction, & while fitting on board	Total No. of visits	Is the approved plan of main boiler forwarded herewith	" " " donkey " " "																																																												
	During erection on board vessel --																																																																
<table border="1"> <thead> <tr> <th>Dates of Examination of principal parts—Cylinders</th> <th>Slides</th> <th>Covers</th> <th>Pistons</th> <th>Rods</th> </tr> </thead> <tbody> <tr> <td>Connecting rods</td> <td>Crank shaft</td> <td>Thrust shaft</td> <td>Tunnel shafts</td> <td>Screw shaft</td> </tr> <tr> <td>Stern tube</td> <td>Steam pipes tested</td> <td>Engine and boiler seatings</td> <td>Engines holding down bolts</td> <td>Propeller</td> </tr> <tr> <td>Completion of pumping arrangements</td> <td>Boilers fixed</td> <td>Engines tried under steam</td> <td></td> <td></td> </tr> <tr> <td>Completion of fitting sea connections</td> <td>Stern tube</td> <td>Screw shaft and propeller</td> <td></td> <td></td> </tr> <tr> <td>Main boiler safety valves adjusted</td> <td>Thickness of adjusting washers</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Material of Crank shaft <i>Steel</i></td> <td>Identification Mark on Do.</td> <td>Material of Thrust shaft <i>Steel</i></td> <td>Identification Mark on Do.</td> <td></td> </tr> <tr> <td>Material of Tunnel shafts <i>Iron</i></td> <td>Identification Marks on Do.</td> <td>Material of Screw shafts <i>Steel</i></td> <td>Identification Marks on Do.</td> <td></td> </tr> <tr> <td>Material of Steam Pipes <i>Copper to donkey boiler</i></td> <td>Test pressure</td> <td><i>200 lbs</i></td> <td></td> <td></td> </tr> <tr> <td>Is an installation fitted for burning oil fuel <i>Yes</i></td> <td>Is the flash point of the oil to be used over 150°F. <i>Yes</i></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Have the requirements of Section 49 of the Rules been complied with <i>Yes</i></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Is this machinery duplicate of a previous case <i>No</i></td> <td>If so, state name of vessel</td> <td></td> <td></td> <td></td> </tr> </tbody> </table>						Dates of Examination of principal parts—Cylinders	Slides	Covers	Pistons	Rods	Connecting rods	Crank shaft	Thrust shaft	Tunnel shafts	Screw shaft	Stern tube	Steam pipes tested	Engine and boiler seatings	Engines holding down bolts	Propeller	Completion of pumping arrangements	Boilers fixed	Engines tried under steam			Completion of fitting sea connections	Stern tube	Screw shaft and propeller			Main boiler safety valves adjusted	Thickness of adjusting washers				Material of Crank shaft <i>Steel</i>	Identification Mark on Do.	Material of Thrust shaft <i>Steel</i>	Identification Mark on Do.		Material of Tunnel shafts <i>Iron</i>	Identification Marks on Do.	Material of Screw shafts <i>Steel</i>	Identification Marks on Do.		Material of Steam Pipes <i>Copper to donkey boiler</i>	Test pressure	<i>200 lbs</i>			Is an installation fitted for burning oil fuel <i>Yes</i>	Is the flash point of the oil to be used over 150°F. <i>Yes</i>				Have the requirements of Section 49 of the Rules been complied with <i>Yes</i>					Is this machinery duplicate of a previous case <i>No</i>	If so, state name of vessel			
Dates of Examination of principal parts—Cylinders	Slides	Covers	Pistons	Rods																																																													
Connecting rods	Crank shaft	Thrust shaft	Tunnel shafts	Screw shaft																																																													
Stern tube	Steam pipes tested	Engine and boiler seatings	Engines holding down bolts	Propeller																																																													
Completion of pumping arrangements	Boilers fixed	Engines tried under steam																																																															
Completion of fitting sea connections	Stern tube	Screw shaft and propeller																																																															
Main boiler safety valves adjusted	Thickness of adjusting washers																																																																
Material of Crank shaft <i>Steel</i>	Identification Mark on Do.	Material of Thrust shaft <i>Steel</i>	Identification Mark on Do.																																																														
Material of Tunnel shafts <i>Iron</i>	Identification Marks on Do.	Material of Screw shafts <i>Steel</i>	Identification Marks on Do.																																																														
Material of Steam Pipes <i>Copper to donkey boiler</i>	Test pressure	<i>200 lbs</i>																																																															
Is an installation fitted for burning oil fuel <i>Yes</i>	Is the flash point of the oil to be used over 150°F. <i>Yes</i>																																																																
Have the requirements of Section 49 of the Rules been complied with <i>Yes</i>																																																																	
Is this machinery duplicate of a previous case <i>No</i>	If so, state name of vessel																																																																

General Remarks (State quality of workmanship, opinions as to class, &c.) *How done. The main & auxiliary engines opened up, & the cylinders & heads, pistons, fuel & scavenging valves, cranks, crank pinion shafts, & propellers, sea connections & fastenings, main & auxiliary compressors with clamping, waterpumps & 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 remetalled & shafts rebored. No 1 & 2 pistons of starboard main engines renewed. 2 bottom half brasses for rocking shaft of main engines renewed. 10 piston rings renewed for starboard main engines. No

The amount of Entry Fee ... £	When applied for.	<i>See letter to Lth. Cartell & J.R. Williamson</i> Engineer Surveyor to Lloyd's Register of Shipping FRI. DEC. 24 1920 FRI. FEB. 11 1921 FRI. FEB. 25 1921 FRI. DEC. 24 1920 FRI. FEB. 11 1921 FRI. FEB. 25 1921
Special ... £ 26 : 5	When received.	
Donkey Boiler Fee ... £		
Travelling Expenses (if any) £		
Committee's Minute	<i>Lth. 10.20</i> <i>oil engines.</i>	
Assigned	FRI. 20 OCT. 1922	

Rpt. 9a.

Port of

Lith.

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

on the "Cage" & "Hut".

Repairs continued. No 4 piston & guide of port main engine renewed. Intermediate shaft bearing of cargo pump remetalled, & 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 effected. Piston rings renewed in 1st stage air compressor. Cylinder of starboard oil cargo pump bored out, new piston, rings to same fitted. New oil trap 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 5" 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 2", pumps from cargo tanks. Two motor driven centrifugal ballast pumps in upper hold forward, pumps from fore peak, ballast tank, cofferdam, & bilges. Semi-stary hand bilge pump in pump room, to pumps from pump room bilges. Semi-stary 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 fore 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 Company's letter of the 19th inst to the new owners.

Cartell & J.R. Williamson

See correspondence in papers

