Rpt. 4b.

REPORT ON OIL ENGINE MACHINERY.

No. 61681

Received at London Office NOV 1 1939

Date of writing Report ____ 19__ When handed in at Local Office 28. 10. 1939 Port of GLASGOW

No. in Reg. Book. ____ Survey held at PAISLEY Date, First Survey 15 : 5 : 39 Last Survey 17th Oct. 1939

Number of Visits 24

on the ~~Single~~ Twin ~~Triple~~ ~~Quadruple~~ Screw vessel "ABERCRAIG" Tons Gross 445 Net 191

Built at PAISLEY By whom built FLEMING & FERGUSON LD. Yard No. 550 When built 1939

Engines made at LOUGHBOROUGH By whom made BRUSH ELECTRICAL ENG. Co. Engine No. 259 260 When made 1939

Donkey Boilers made at ARNAM By whom made COCHRAN & Co. (ARNAM) LD. Boiler No 14212 When made 1939

Brake Horse Power 750 Owners DUNDEE HARBOUR TRUST Port belonging to DUNDEE

Nom. Horse Power as per Rule 147 Is Refrigerating Machinery fitted for cargo purposes NO Is Electric Light fitted YES

Trade for which vessel is intended FERRY SERVICE

L ENGINES, &c.—Type of Engines TWIN BRUSH VIS-A-VIS 2 or 4 stroke cycle 4 Single or double acting SINGLE

Maximum pressure in cylinders ____ Diameter of cylinders ____ Length of stroke ____ No. of cylinders ____ No. of cranks ____

Mean Indicated Pressure ____

pan of bearings, adjacent to the Crank, measured from inner edge to inner edge ____ Is there a bearing between each crank ____

evolutions per minute ____ Flywheel dia. ____ Weight ____ Means of ignition ____ Kind of fuel used ____

rank Shaft, { Solid forged / Semi built / All built } dia. of journals as per Rule ____ as fitted ____ Crank pin dia. ____ Crank Webs Mid. length ____ breadth ____ Thickness parallel to axis ____ shrunk Mid. length ____ thickness ____ Thickness around eyehole ____

SEE SHEFFIELD RPT No 5006

ywheel Shaft, diameter as per Rule ____ as fitted ____ **Intermediate Shafts,** diameter as per Rule ____ as fitted 4 1/4" **Thrust Shaft,** diameter at collars as per Rule ____ as fitted 4 3/8"

ube Shaft, diameter as per Rule – as fitted – **Screw Shaft,** diameter as per Rule – as fitted – **Is the** { tube / screw } shaft fitted with a continuous liner { – / – }

onze Liners, thickness in way of bushes as per Rule – as fitted – Thickness between bushes as per Rule – as fitted – Is the after end of the liner made watertight in the

propeller boss – If the liner is in more than one length are the junctions made **by fusion** through the whole thickness of the liner –

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 –

two 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

ft – If so, state type – Length of **Bearing** in **Stern Bush** next to and supporting propeller –

opeller, dia. "VOITH-SCHNEIDER" No. of blades ____ Material ____ whether Moveable ____ Total Developed Surface ____ sq. feet

thod of reversing Engines ____ Is a governor or other arrangement fitted to prevent racing of the engine when declutched YES Means of lubrication

ROLD FELD Thickness of cylinder liners – Are the cylinders fitted with safety valves – 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 –

oling Water Pumps, No. 1 ON EACH MAIN ENGINE 1 - INDEPENDENT Is the sea suction provided with an efficient strainer which can be cleared within the vessel YES

ge Pumps worked from the **Main Engines,** No. 2 DRYSDALE "WEE MAC" 85GLS/MIN. Diameter ____ Stroke ____ Can one be overhauled while the other is at work YES

nps connected to the **Main Bilge Line** { No. and Size 2 - 2 1/2" DRYSDALE 'WEE MAC' 85GLS/MIN. 1 - 6" x 6" 50 Tons/Hr. / How driven BELT DRIVE FROM MAIN ENGINES. ELECT. MOTOR }

he cooling water led to the bilges NO If so, state what special arrangements are made to deal with this water in addition to the ordinary bilge pumping

ngements –

last Pumps, No. and size 1 - 240 TONS/HR. **Power Driven Lubricating Oil Pumps,** including Spare Pump, No. and size 3 (2 ON MAIN ENGINES. 1 - IND. 800GLS/MIN.

two independent means arranged for circulating water through the **Oil Cooler** YES **Suctions,** connected to both Main Bilge Pumps and Auxiliary Bilge

ps, No. and size:—In Machinery Spaces 5@2 1/2", 1@3", 2@6 1/2". In Pump Room ____

Holds, &c. 3@2 1/2" FORD., 2@2 1/2" AFT.

ependent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 1@3", 2@6 1/2"

all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes YES Are the Bilge Suctions in the Machinery Spaces

rom easily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges YES

ll **Sea Connections** fitted direct on the skin of the ship YES Are they fitted with Valves or Cocks BOTH

hey fixed sufficiently high on the ship's side to be seen without lifting the platform plates YES Are the Overboard Discharges above or below the deep water line ABOVE

hey 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

pipes pass through the bunkers – How are they protected –

pipes pass through the deep tanks – Have they been tested as per Rule –

ll 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

rtment to another YES Is the Shaft Tunnel watertight – Is it fitted with a watertight door – worked from –

25 wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork –

38. **n Air Compressors,** No. 2 No. of stages 2 Diameters 3 1/4" & 1 1/4" Stroke 3" Driven by MAIN ENGINES

iliary Air Compressors, No. 1 No. of stages 2 Diameters 7 1/4" & 3 1/8" Stroke 6" Driven by STBD. AUX. ENGINE

ll Auxiliary Air Compressors, No. 1 No. of stages 2 Diameters 4·5" & 1·875" Stroke 2·75" Driven by EMERGENCY GEN. ENGINE

·25 provision is made for first Charging the Air Receivers COMP^R COUPLED TO HAND-STARTING EMERGENCY GEN. ENGINE.

9:-9·14 **venging Air Pumps,** No. – Diameter – Stroke – Driven by –

iliary Engines crank shafts, diameter as per Rule – as fitted – No. 3 Position PORT, CENTRE & STBD. FORD. OF MAIN ENGINES.

the Auxiliary Engines been constructed under special survey YES Is a report sent herewith YES

its 48

AIR RECEIVERS:—Have they been made under survey YES State No. of ~~Report or~~ Certificate C.3312-15 GRI

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 and cleaned YES Is a drain fitted at the lowest part of each receiver YES

Injection Air Receivers, No. – Cubic capacity of each – Internal diameter – thickness –

Seamless, lap welded or riveted longitudinal joint – Material – Range of tensile strength – Working pressure by Rules – Actual –

Starting Air Receivers, No. 2-MAIN 2-AUX. Total cubic capacity 60 cu. ft. 5 cu. ft. Internal diameter 24" 18" thickness 15/32" 9/16"

Seamless, lap welded or riveted longitudinal joint BUTT WELDED WITH RIVETED INTERNAL BUTT STRAP Material STEEL Range of tensile strength ENDS 26/30 SHELL 28/32 Working pressure by Rules Actual 350 lb.

IS A DONKEY BOILER FITTED? YES If so, is a report now forwarded? YES

Is the donkey boiler intended to be used for domestic purposes only NO

PLANS. Are approved plans forwarded herewith for Shafting YES Receivers NO Separate Fuel Tanks YES
(If not, state date of approval)

Donkey Boilers YES General Pumping Arrangements YES Pumping Arrangements in Machinery Space YES

Oil Fuel Burning Arrangements –

SPARE GEAR.

Has the spare gear required by the Rules been supplied YES ✓

State the principal additional spare gear supplied –

The foregoing is a correct description.

~~Henry Robb, Limited~~

Henry Robb Manufacturer.

Secretary

Dates of Survey while building — During progress of work in shops: 1939 May 15. 29 June: 1. 6. 13. 19. 21 23. 29 July: 7 17. 21 Aug: 4. 14. 25. 30 Sep: 1. 6. 15. 20.
During erection on board vessel: Oct: 9. 13. 17
Total No. of visits 24

Dates of Examination of principal parts—Cylinders – Covers – Pistons – Rods – Connecting rods –

Crank shaft – Flywheel shaft – Thrust shaft 1-6-39-25-8-39 Intermediate shafts 1-6-39-25-8-39 Tube shaft –

Screw shaft – Propeller 29-6-39: 17-10-39 Stern tube – Engine seatings 13-6-39 Engines holding down bolts 25-8-3

Completion of fitting sea connections 29-6-39 Completion of pumping arrangements 1-9-39 Engines tried under working conditions 13-10-39

Crank shaft, Material – Identification Mark – Flywheel shaft, Material – Identification Mark –

Thrust shaft, Material S.M. STEEL Identification Mark 8708 G.E.M 19/6/39 Intermediate shafts, Material S.M. STEEL Identification Marks 8708 G.E.M

Tube shaft, Material – Identification Mark – Screw shaft, Material – Identification Mark –

Identification Marks on Air Receivers Nos 738, 739, 740, 741 LLOYD'S TEST 700 LBS WP 350 LBS A.S. 19-6

Is the flash point of the oil to be used over 150° F. YES ✓

Have the requirements of the Rules for oil fuel pipes and tank fittings been complied with YES ✓

Is the vessel (not being an oil tanker) fitted for carrying oil as cargo NO If so, have the requirements of the Rules been complied with –

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 NO If so, state name of vessel –

General Remarks (State quality of workmanship, opinions as to class, &c. The machinery and "VOITH-SCHNEIDER" propellers have been satisfactorily installed in the vessel, tested under working conditions at full load and found to be efficient. Extensive manoeuvring trials have been carried out and have shown the propellers to be efficient in all respects. On completion of trials, a general examn of the propellers as far as practicable, showed the bevel gears and pinions to be in good condition, and it has ascertained that no leakage of water into the o spaces had taken place. The machinery is, in our opinion, eligible to be classed in the Register Book with record +LMC 10, 39—DB 100

GLASGOW

(Certificate (if required) to be sent to.)

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

The amount of Entry Fee .. £ 3 : – :
1/3 Special ... ... £ 12 : 5 :
Donkey Boiler Fee ... £ : :
Travelling Expenses (if any) £ : :

When applied for, 31 OCT 1939

When received, 7/11/1939 R&H 8/11.

Committee's Minute GLASGOW 31 OCT 1939 RH.

Assigned +/- LMC 10.39
DB 100 lb.

Engineer Surveyor to Lloyd's Register of Shipping.