

# REPORT ON OIL ENGINE MACHINERY.

No. 94319  
23 OCT 1936

Date of writing Report 21.10.36 Port of **NEWCASTLE-ON-TYNE**  
When handed in at Local Office  
No. in Survey held at **Newcastle** Date, First Survey **9 March** Last Survey **21 Oct 1936**  
Reg. Book. Number of Visits **51**

on the **SEPIA** Screw vessel  
Single }  
Twin }  
Triple }  
Quadruple }

Tons } Gross **6214**  
Net **3620**

Built at **Newcastle (Wallsend)** By whom built **Swan Hunter & Wigham Reekie & Co. Ltd** Yard No. **1519** When built **1936**  
Engines made at **do (St Peter)** By whom made **R. W. Hawthorn, Leslie & Co. Ltd** Engine No. **3879** When made **1936**  
Donkey Boilers made at **do (Walker)** By whom made **Swan Hunter & Wigham Reekie & Co. Ltd** Boiler No. **1524** When made **1936**  
Brake Horse Power **2850** Owners **Anglo-Saxon Petroleum Co. Ltd** Port belonging to **LONDON**  
Nom. Horse Power as per Rule **387** Is Refrigerating Machinery fitted for cargo purposes **No** Is Electric Light fitted **Yes**  
Trade for which vessel is intended **Ocean-going. Carrying Petroleum in Bulk**

**IL ENGINES, &c.**—Type of Engines **Worshipper Supercharged** 2 or 4 stroke cycle **4** Single or double acting **Single**  
Maximum pressure in cylinders **700 lb/sq in** Diameter of cylinders **6.50 in** Length of stroke **14.00 in** No. of cylinders **6** No. of cranks **6**  
Mean indicated pressure **135 lb. max.** Is there a bearing between each crank **✓**  
Span of bearings, adjacent to the Crank, measured from inner edge to inner edge **See Report on Main Engines.**

Revolutions per minute Flywheel dia. Weight Means of ignition **Compression** Kind of fuel used **Diesel oil**  
Crank Shaft, dia. of journals as per Rule **✓** Crank pin dia. **✓** Crank Webs Mid. length breadth **✓** Thickness parallel to axis **shrunk**  
as fitted Mid. length thickness **✓** Thickness around eyehole **✓**

Flywheel Shaft, diameter as per Rule **✓** Intermediate Shafts, diameter as per Rule **12 5/16 (312 mm)** Thrust Shaft, diameter at collars as per Rule **✓**  
as fitted **350 mm** as fitted **✓**

Tube Shaft, diameter as per Rule **✓** Screw Shaft, diameter as per Rule **13.55 (344 mm)** Is the tube shaft fitted with a continuous liner **Yes**  
as fitted **370 mm** as fitted **✓**

Bronze Liners, thickness in way of bushes as per Rule **22.8/32 = 18.2 mm** Thickness between bushes as per rule **13.7 mm** Is the after end of the liner made watertight in the propeller boss **Yes**  
as fitted **19.25 mm** as fitted **15 mm** **✓**

If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner **As length** **✓**  
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 **Tight fit** **✓**  
If 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 **✓**

Propeller, dia. **14.9 in** Pitch **11.0 in** No. of blades **4** Material **Mang. Br.** Whether Moveable **No** Total Developed Surface **75** sq. feet  
shaft **No** If so, state type **✓** Length of Bearing in Stern Bush next to and supporting propeller **14.80 in** **✓**

Method of reversing Engines **Air Servo** Is a governor or other arrangement fitted to prevent racing of the engine when detached **Yes** Means of lubrication **See Report on main Engines.**  
Thickness of cylinder liners Are the cylinders fitted with safety valves **✓** Are the exhaust pipes and silencers water cooled or lagged with non-conducting material **✓**

Cooling Water Pumps, No. **2** Is the sea suction provided with an efficient strainer which can be cleared within the vessel **Yes**  
Cylinder cooling: **one driven by one Standby**  
Piston cooling: **do. do.**

What special arrangements are made for dealing with cooling water if discharged into bilges **Led overboard.** **✓**  
Bilge Pumps worked from the Main Engines, No. **2** Diameter **See m. Engine Rpt.** Can one be overhauled while the other is at work **✓**  
Pumps connected to the Main Bilge Line No. and Size **2-35 ton Rotary** How driven **by M. Engine** **✓**

Ballast Pumps, No. and size **18x8x10**; **6x6x6** Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size **one 40 ton main by driven**  
**✓** **one Standby 8x8x10** **50 ton**

Are two independent means arranged for circulating water through the Oil Cooler **Yes** Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge Pumps, No. and size:—In Machinery Spaces **1 of 3 1/2" after well; 2 of 3 1/2" in Eng. Rm. p.t.s; 7 of 4" Cofferdam, 2 each. In Pump Room 1 of 2"**

In Holds, &c. **In Fore Hold 2 of 2 1/2"; In Fore Store 2 of 2"; In Fore Cofferdam 1 of 4"**  
Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size **one 5" direct to G.S.P. & 1 of 6" direct to cooler pumps.**

Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes **Yes** Are the Bilge Suctions in the Machinery Spaces **Yes**  
Are all Sea Connections fitted direct on the skin of the ship **Yes** Are they fitted with Valves or Cocks **Yes both**

Are they 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** **✓**  
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**

What pipes pass through the bunkers **oil fuel 4" aft Cofferdam** How are they protected **✓**  
What pipes pass through the deep tanks " " Have they been tested as per Rule **Yes**

Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times **Yes**  
Is the 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 compartment to another **Yes** Is the Shaft Tunnel watertight **✓** Is it fitted with a watertight door **✓** 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 **✓**  
Main Air Compressors, No. **Airless Injection of Engines** Diameters **4 1/8 + 8 3/8"** Stroke **6 1/4"** Driven by **one by oil engine** **✓**  
Auxiliary Air Compressors, No. **2** No. of stages **2** Driven by **one by Steam Eng.** **✓**

Small Auxiliary Air Compressors, No. **None** No. of stages **✓** Diameters **✓** Stroke **✓** Driven by **✓**  
Scavenging Air Pumps, No. **None** Diameter **✓** Stroke **✓** Driven by **✓**

Auxiliary Engines crank shafts, diameter as per Rule **See Appendix Rpt 19694 (Eng. No. 178297)** No. **one 30 lb for Compression on P. Side of ER.**  
as fitted **+ Amsterdam Rpt. 13737** Position **one Single Crk for Air Pump on S. side of ER.**

**AIR RECEIVERS:**—Is each receiver, which can be isolated, fitted with a safety valve as per Rule **Yes** Is a drain fitted at the lowest part of each receiver **Yes**  
Can the internal surfaces of the receivers be examined and cleaned **Yes** Internal diameter **None** thickness **None**  
High Pressure Air Receivers, No. **Airless Inj.** Cubic capacity of each **None** Working pressure **None**  
Seamless, lap welded or riveted longitudinal joint Material **None** Range of tensile strength **None** Actual **None**

Starting Air Receivers, No. **2** Total cubic capacity **800 cub. ft.** Internal diameter **5'-0"** thickness **27/32"**  
Seamless, lap welded or riveted longitudinal joint **Riveted** Material **M. Steel** Range of tensile strength **29 to 33 tons** Working pressure **by Rules 376 lb/sq in** Actual **350 "**

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. - For Steam Auxiliaries.*

PLANS. Are approved plans forwarded herewith for Shafting *No 17/4/35 + 16/5/35*

Receivers *17/9/35*

Separate Tanks *14/10/35*

Donkey Boilers *21/6/35*

General Pumping Arrangements *17/9/35*

Oil Fuel Burning Arrangements ✓

SPARE GEAR.

Has the spare gear required by the Rules been supplied *Yes* ✓

State the principal additional spare gear supplied

*One C.I. Propeller + one Screw Shaft. marked 5121 J.Q. AW. 16-7-36.*

The foregoing is a correct description.

*G.F. Sweeney* Manufacturer.

Dates of Survey while building  
During progress of work in shops - *1936 Mar. 9. 27. Apr. 2. 4. 28. May 5. 8. 12. 29. June 5. 9. 10. 11. 15. 19. 29. July 2. 7. 13. 20. 21. 22. 23.*  
During erection on board vessel - *28. 30. Aug. 6. 10. 12. 18. 19. 21. 28. Sep. 2. 7. 10. 15. 18. 21. 23. 24. 29. 30. Oct. 1. 6. 7. 9. 12. 16. 21.*  
Total No. of visits *51.*

Dates of Examination of principal parts - Cylinders ✓ Covers ✓ Pistons ✓ Rods ✓ Connecting rods ✓

Crank shaft ✓ Flywheel shaft ✓ Thrust shaft ✓ Intermediate shafts *6/8/36* Tube shaft ✓

Screw shaft *16-7-36* Propeller *16-7-36* Stern tube *19/8/36* Engine seatings *24/9/36* Engines holding down bolts *24/9/36*

Completion of fitting sea connections *28/8/36* Completion of pumping arrangements *16-10-36* Engines tried under working conditions *21-10-36*

Crank shaft, Material ✓ Identification Mark ✓ Flywheel shaft, Material ✓ Identification Mark ✓

Thrust shaft, Material ✓ Identification Mark ✓ Intermediate shafts, Material *S.M. Steel* Identification Marks *5149 J.Q. EJS. 6-8-36*

Tube shaft, Material ✓ Identification Mark ✓ Screw shaft, Material *S.M. Steel* Identification Mark *5120 J.Q. AW 16-7-36*

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 ✓ 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 *Yes* ✓ If so, state name of vessel *ELONA. Nav. Rpt 93417. MACTRA Nav Rpt. 93536.*

General Remarks (State quality of workmanship, opinions as to class, &c.)

*The machinery of this vessel has been constructed and installed under special Survey in accordance with the Rules & approved plans, and the material and workmanship are good. The machinery has been satisfactorily fitted on board and tested under working conditions, and the vessel is eligible in my opinion, for record + LMC. 10. 36, Ord Eng., T.S. Cl.*

The amount of Entry Fee ..	£	By. Eng. Bldm	When applied for,
Special <i>1/5<sup>th</sup> install</i>	16	6	19. 10. 36 ✓
Donkey Boiler Fee	17	2	When received,
<i>2 Starting Air Recs</i>	8	8	24. 10. 36 ✓
Travelling Expenses (if any)			<i>26/10</i>

Committee's Minute

Assigned *+ dmb 10. 36*

*J.B. 180/15*

*Ord Eng. Ch*

FRI. 30 OCT 1936

*A. Watt*

Engineer Surveyor to Lloyd's Register of Shipping.



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Newcastle-on-Tyne

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