

Ship and name of writing report 11.4.59 Received London LONDON Port LONDON No. 28001 40008  
 Date held at Stamford, Lincs. No. of visits 5 In shops 5 First date 9.3.59 Last date 9.4.59  
 On vessel

**FIRST ENTRY REPORT ON INTERNAL COMBUSTION MACHINERY**

Name "MAKOURIA" Gross tons

Managers Ferguson Bros. Ltd. Port of Registry Glasgow Year 1959 Month 4  
 By Blackstone & Co. Ltd. Yard No. 428 When 1959-4  
 Eng. No. M.86158  
M.86159

Particulars of restricted service of ship, if limited for classification  
 Particulars of vegetable or similar cargo oil notation, if required  
 Is ship intended to carry petroleum in bulk?  
 Is the refrigerated cargo installation intended to be classed?

Following particulars should be given as fully and as clearly as possible. Where the answer is "No" or "None", say so! Ticks and other signs of doubtful meaning are not to be used. Where the drawing is not applicable to the installation, a black line may be inserted. If the main engines have been constructed at another port and are covered by a separate report, the particulars given in that report need not be repeated below, but the port and report number should be stated.

No. of main engines 2 No. of propellers 2 Brief description of propulsion system

**IN RECIPROCATING ENGINES.** Licence Name and Type No. Lister Blackstone EVNGR 6 type vertical diesel engines.  
 No. of cylinders per engine 6 Dia. of cylinders 8 3/4" stroke(s) 11 1/2" 2 or 4 stroke cycle 4 Single or double acting Single  
 Minimum approved BHP per engine 255 at 600 RPM of engine and 300 RPM of propeller.  
 Responding MIP 102 p.s.i. (For DA engines give MIP top & bottom) Maximum cylinder pressure 800 p.s.i. Machinery numeral 51 x 2 = 102  
 Are the cylinders arranged in Vee or other special formation? No. If so, number of crankshafts per engine

**2 STROKE ENGINES.** Is the engine of opposed piston type? If so, how are upper pistons connected to crankshaft?  
 Is exhaust discharged through ports in the cylinders or through valve(s) in the cylinder covers? No. and type of mechanically driven scavenge pumps or blowers per engine and how driven  
 No. of exhaust gas driven scavenge blowers per engine Where exhaust gas driven blowers only are fitted, can the engine operate with one blower out of action?  
 Stand-by or emergency pump or blower is fitted, state how driven No. of scavenge air coolers Scavenge air pressure at full load  
 Are scavenge manifold explosion relief valves fitted?

**4 STROKE ENGINES.** Is the engine supercharged? No Are the undersides of the pistons arranged as supercharge pumps? No No. of exhaust gas driven blowers per engine  
 No. of supercharge air coolers per engine Supercharge air pressure Can engine operate without supercharger?

**2 & FOUR STROKE ENGINES--GENERAL.** No. of valves per cylinder: Fuel 1 Inlet 1 Exhaust 1 Starting series 2 in series Safety 1  
 Material of cylinder covers Cast Iron Material of piston crowns Alum. Alloy Is the engine equipped to operate on heavy fuel oil? No  
 Lubricating medium for:—Cylinders Fresh water Pistons Nil Fuel valves Nil Overall diameter of piston rod for double acting engines  
 Piston rod fitted with a sleeve? Is welded construction employed for: Bedplate? No Frames? No Entablature? No Is the crankcase separated from the side of pistons? No Is the engine of crosshead or trunk piston type? Trunk Total internal volume of crankcase 44 cu.ft. No. and total area of explosion relief valves 4-4 sq.ins. Are flame guards or traps fitted to relief devices? Yes Is the crankcase readily accessible? Yes If not, must the engine be removed for overhaul of bearings, etc? Is the engine secured directly to the tank top or to a built-up seating? How is the engine started? Comp. Air.  
 Can the engine be directly reversed? No If not, how is reversing obtained?  
 Has the engine been tested working in the shop? Yes How long at full power? 4 hrs. plus 1 hr. on 10% overload.

**CRANK & FLYWHEEL SHAFTING.** Date of approval of torsional vibration characteristics of the propelling machinery system 29.1.59 State barred speed range(s), if imposed  
 Working propeller For spare propeller Is a governor fitted? Yes Is a torsional vibration damper or detuner fitted to the shafting? Yes  
 Positioned? 1. Free end of crankshaft 1. Atlas hydraulic 2. In Flywheel coupling, Type 2. Viscous No. of main bearings 8 Are main bearings of ball or roller type?

Distance between inner edges of bearings in way of crank(s) 10 1/16" Distance between centre lines of side cranks or eccentrics of opposed piston engines  
 Shaft type: Built, semi-built, solid. (State which) Solid  
 Diameter of journals 6 3/4" Diameter of crankpins Centre 6 1/8" Breadth of webs at mid-throw 7 3/4" Axial thickness of webs 2 25/32"  
 Are dowel pins fitted? Crankshaft material Journals EN.8 Minimum 40 tons/sq.in.  
 Webs Steel Tensile strength  
 Diameter of flywheel 38" Weight 1860 Are balance weights fitted? Yes Total weight 295.5 lbs. Radius of gyration 7.706 ft.  
 Diameter of flywheel shaft 6 3/4" Material EN.8 Steel Minimum approved tensile strength 40 tons/sq.in.  
 Shaft: separate, integral with crankshaft, integral with thrustshaft. (State which) Integral with crankshaft.



GENERAL REMARKS

State if the machinery has been constructed and/or installed under special survey in accordance with the Rules, approved plans and Secretary's letters. State quality of materials and workmanship and give recommendations for classification, including any special notation to be assigned. Where existing machinery is submitted for classification the circumstances should be explained as fully as possible.

These engines, Works Order BM.90304 & 5 have been built under Special Survey from materials manufactured under the supervision of Surveyors to the Society in accordance with approved plans and the Rules of the Society. Workmanship throughout is good.

In my opinion they are eligible for installation in a Classed vessel.

*W. Waddle*

W. WADDLE.

Engineer Surveyor to Lloyd's Register of Shipping.

PARTICULARS OF IDENTIFICATION MARKS ((Including Port of origin) of important Forgings and Castings. (Copies of certificates should be forwarded with report.)

RODS 1). 5 off BCX142, 1 off BCX141. 2). 3 off BCX142, 3 off BCX 141. WW.LON 9.3.59 Batch forging certificate BHAM C.36913.

CRANKSHAFT OR ROTOR SHAFT 1) 3554 V AD. 21.11.58. WW. LON. 2) 3556 V MCH. 8.12.58. 9.3.59.

FLYWHEEL SHAFT

THRUSTSHAFT

GEARING

INTERMEDIATE SHAFTS

SCREW AND TUBE SHAFTS

PROPELLERS

OTHER IMPORTANT ITEMS Cylinder blocks with liners and heads:- Lloyds test 100lbs WW.LON 9.3.59.

Is the installation a duplicate of a previous case?

If so, state name of vessel

Date of approval of plans for crankshaft 29.1.59

Straight shafting

Gearing

Clutch

Separate oil fuel tanks

Pumping arrangements

Oil fuel arrangements

Cargo oil pumping arrangements

Air receivers

Donkey boilers

Dates of examination of principal parts:-

Fitting of stern tube

Fitting of propeller

Completion of sea connections

Alignment of crankshaft in main bearings

Engine chocks & bolts

Alignment of gearing

Alignment of straight shafting

Testing of pumping arrangements

Oil fuel lines

Donkey boiler supports

Steering machinery

Windlass

Date of Committee

GLASGOW 27 OCT 1959

Special Survey Fee

£51.5.0.

Decision

SEE ACCOMPANYING MACHINERY REPORT

Expenses

£10.5.0.

Date when A/c rendered

5 MAY 1959



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