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Rpt. 4c

Date of writing report **MAY - 7. 1958** Received London **22 JUN 1958** Port **Kobe** No. **FE-5706**
Survey held at **Kobe, Japan** No. of visits **59** First date **22nd March, 1957** Last date **13th May, 1958**

FIRST ENTRY REPORT ON AUXILIARY INTERNAL COMBUSTION ENGINES

Name of Ship **"FENIX"** Owners **Phoenix Compania De Navegacion S.A.**
(Or Contract No. if name unknown) (Or Consignees)
Ship Built at **Kobe, Japan** by **Mitsubishi Heavy Ind., Reorganized, Ltd.** when **1958-5** Yard No. **883**
Auxiliary Engines **Gas Turbines** made at **Kobe, Japan** by **- do. -** when **1958-2** Eng. Nos. **1572, 1573, 1574**
Total No. of sets and description (including type name) **3 sets. Solid Injection Single Acting Type JB5**

INTERNAL COMBUSTION RECIPROCATING ENGINES. No. of cylinders per engine **5** Dia. of cylinders **275 m/m** Stroke **400 m/m**
2 or 4 stroke cycle **4** Maximum approved BHP **355** at **450** RPM Corresponding MIP **6.69 kg/cm²** Maximum pressure **55 kg/cm²**
Fuel **Heavy Oil** Are cylinders arranged in Vee or other special formation? **No** If so, No. of
crankshafts per engine **-** Is engine of opposed piston type? **-** No. and type of mechanically driven scavenge pumps or blowers
per engine **-** No. of exhaust gas driven blowers or superchargers per engine **-** Is welded construction
used for: Bedplate? **No** Entablature? **No** Total internal volume of crankcase (if 20 cu. ft. or over) **88.2 Cu.ft.** No. and total area of
crankcase explosion relief devices **3 x 116.4 cm²** Are flame guards or traps fitted? **Yes** Cooling medium for: Cylinders **Water**
Pistons **-** No. of attached pumps: F.W. cooling **1 each** S.W. cooling **-** Lubricating oil **1 each** How is engine started?
Compressed air. Eng. Eng.

SHAFTING. Is a damper or detuner fitted? **No** No. of main bearings **6** Are bearings of ball or roller type? **No** Distance between
inner edges of bearings in way of cranks **350 m/m** Crankshaft: ~~Cast iron~~ **solid.** Material of crankshaft **Steel Forging** Approved
minimum tensile strength **52.5 52.2** kg/mm² Dia. of pins **180 m/m** Journals **200 m/m** Breadth of webs at mid throw **300 m/m** Axial
thickness **90 m/m** If shrunk, radial thickness around eyeholes **-** Dia. of flywheel **1450 m/m** Weight **2,500 kgs.** Are balance
weights fitted? **No** Total weight **-** Rad. of gyration **653 m/m** Dia. of flywheel shaft **-**
Has each engine been tested in shop? **Yes** How long at full power? **4 hours** Was it tested with driven machinery attached? **Yes** Was the
governing tested and found satisfactory? **Yes** Date of approval of torsional vibration characteristics (for engines of 150 BHP and over) **21-8-57**
Date of approval of shafting **5-8-57** Identification marks on shafting **MK-CK351, MK-CK352, MK-CK357.** **24 387L**
Particulars of driven machinery **220 K.W. D.C. Electric Generator and 35 H.P. Air Compressor**

Port and No. of Certificate for Starting Air Receivers **KOB. NO. AR-46469**

AUXILIARY GAS TURBINES. BHP per set **-** At **-** RPM of output shaft. Open or closed cycle?
Arrangement of turbines. HP drives **-** at **-** RPM HP gas inlet temp. **-** pressure **-**
(A small diagram should be attached showing gas cycle) IP **-** at **-** IP **-** **-** **-**
LP **-** at **-** LP **-** **-** **-**
No. of air compressors per set **-** Centrifugal or axial flow type? **-** Material of turbine blades **-**
Material of compressor blades **-** No. of air coolers per set **-** No. of heat exchangers per set **-** How are
turbines started? **-** Are the turbines operated in conjunction with free piston gas generators?
Total No. of free piston gas generators **-** Dia. of working pistons **-** Dia. of compressor pistons **-** No. of double strokes
per minute at full power **-** Gas delivery pressure **-** Gas delivery temperature **-**
Have the turbines and attached equipment been tested in shop? **-** How long at full power? **-** Were they tested with driven machinery
attached? **-** Particulars of gearing **-**
Date of approval of plans **-** Identification marks **-** Particulars of driven machinery **-**

ELECTRIC GENERATORS. Port and No. of Certificate for generators of 100 Kw. and over **Kobe Nos. 47339, 47397**
For generators under 100 Kw., has Makers' Certificate been obtained? **-** Are Certificates attached? **Yes**

The foregoing description is correct and the particulars are as approved for torsional vibration characteristics (strike out words not applicable)
KOBE SHIPYARD & ENGINE WORKS Manufacturer
MITSUBISHI HEAVY-INDUSTRIES, REORGANIZED, LIMITED

Is this machinery duplicate of a previous case? **Yes** If so, which? **M.V. "EDDA"**

GENERAL REMARKS. State if the machinery has been constructed under special survey in accordance with the Rules, approved plans and Secretary's letters.
State quality of materials and workmanship. Where existing machinery is submitted for classification the circumstances should be explained as fully as possible.
These oil engines have been constructed under Special Survey in accordance with the Rules, approved plans and Secretary's letter.
The materials and workmanship are sound and good.
These oil engines have been tested under full working condition in the shop and found satisfactory.

Survey Fee **¥1,59,000.-**
Expenses **See Rpt. 1**
Date when a/c rendered **-**
P. Manson & S. Matsumoto. Engineer Surveyor to Lloyd's Register

Declaration to be signed by Surveyor at fitting-out Port:— The above described machinery has been fitted on board the **M.V. "FENIX"**
at **Kobe** in a proper manner and found satisfactory when tested on the (date) **10-4-58** under full working conditions.

P. Manson & S. Matsumoto. Engineer Surveyor to Lloyd's Register