

Rpt. 4c.

# REPORT ON OIL ENGINE ELECTRIC GENERATOR SETS.

No. 75698

JUL 1950

Received at London Office

Date of writing Report 26/6/50 19 When handed in at Local Office 28/6/50 19 Port of Glasgow

No. in Survey held at Glasgow Date, First Survey 24 Feb 1950 Last Survey 8 May 1950  
Reg. Book. Number of Visits 6 in ship

Single  
on the Twin  
Triple  
Quadruple

Screw vessel

**EXPLING BORTHEN TANKER**

Tons } Gross.....  
Net.....

Built at Port Glasgow By whom built Wm. Hamilton & Co Ltd Yard No. H82 When built 1950

Owners..... Port belonging to.....

Oil Engines made at Glasgow By whom made Gleniffer Engines Ltd Contract No. 11638 When made 1950

Generators made at Sunderland By whom made Sunderland Forge Eng Co Ltd Contract No. H82 When made 1950

No. of Sets 1 Engine Brake Horse Power 80 M.N. as per Rule 20 Total Capacity of Generators 40 Kilowatts.

Is Set intended for essential services.....

**OIL ENGINES, &c.**—Type of Engines Oilless Injection 2 or 4 stroke cycle 4 Single or double acting Single

Maximum pressure in cylinders 650 LBS/SQ Diameter of cylinders 6" Length of stroke 4" No. of cylinders 4 No. of cranks 4

Mean indicated pressure 120 LBS/SQ Firing order in cylinders 1, 2, 4, 3 Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 6 1/2"

Is there a bearing between each crank Yes Moment of inertia of flywheel (16 m<sup>2</sup> or Kg.-cm.<sup>2</sup>) ✓ Revolutions per minute 800

Flywheel dia 24" Weight 364 LBS. Means of ignition Compression Kind of fuel used Acet Gas

Crank Shaft, dia. of journals as per Rule APP as fitted 3 1/2" Crank pin dia. 3 1/2" Crank Webs Mid. length breadth 1 1/2" Thickness parallel to axis ✓  
Mid. length thickness 1 3/4" shrunk Thickness round eye-hole ✓

Flywheel Shaft, diameter as per Rule APP as fitted 3 1/2" Intermediate Shafts, diameter as per Rule ✓ as fitted ✓ General armature, moment of inertia (16 m<sup>2</sup> or Kg.-cm.<sup>2</sup>) ✓

Are means provided to prevent racing of the engine when disengaged Yes Means of lubrication Yard Kind of damper if fitted NONE

Are the cylinders fitted with safety valves No Are the exhaust pipes and silencers water cooled or lagged with non-conducting material Lagged

Cooling Water Pumps, No. 1 @ 4.5 GPM/MIN Is the sea suction provided with an efficient strainer which can be cleared within the vessel ✓  
*Engine driven*

Lubricating Oil Pumps, No. and size 2 @ 13/4 GPM/MIN

Air Compressors, No. ✓ No. of stages ✓ Diameters ✓ Stroke ✓ Driven by ✓

Scavenging Air Pumps, No. ✓ Diameter ✓ Stroke ✓ Driven by ✓

**AIR RECEIVERS:**—Have they been made under Survey Yes State No. of Report or Certificate 105008  
*Sheffield advice note*

Is each receiver, which can be isolated, fitted with a safety valve as per Rule No

Can the internal surfaces of the receivers be examined Yes What means are provided for cleaning their inner surfaces APPROVED

Is there a drain arrangement fitted at the lowest part of each receiver Yes

High Pressure 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 ✓

Starting Air Receivers, No. One Total cubic capacity 1 cuft Internal diameter 4 9/16" thickness 1/32"

Seamless, lap welded or riveted longitudinal joint Seamless Material Steel Range of tensile strength 28/32 Working pressure by Rules 638/11/2"

**ELECTRIC GENERATORS:**—Type Strip proof.

Pressure of supply 110 volts. Full Load Current 363 Amperes. Direct or Alternating Current DC

If alternating current system, state the periodicity ✓ Has the Automatic Governor been tested and found as per Rule when full load is suddenly thrown

on and off Yes Generators, are they compounded as per Rule Yes is an adjustable regulating resistance fitted in series with each shunt field Yes

Are all terminals accessible, clearly marked, and furnished with sockets Yes Are they so spaced

or shielded that they cannot be accidentally earthed, short circuited, or touched Yes Are the lubricating arrangements of the generators as per Rule Yes

If the generators are under 100 kw. full load rating, have the makers supplied certificates of test Yes and do the results comply with the requirements Yes

If the generators are 100 kw. or over have they been built and tested under survey ✓

Details of driven machinery other than generator NONE

**PLANS.**—Are approved plans forwarded herewith for Shafting 1.10.49 Receivers 1.10.49 Separate Tanks ✓  
*(If not, state date of approval)*

Have Torsional Vibration characteristics if applicable been approved not applicable Armature shaft Drawing No. ✓  
*(state date of approval)*

**SPARE GEAR** As per Rules + attached List

The foregoing is a correct description,

**GLENIFFER ENGINES LTD.**

Manufacturer.

Works Manager



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Lloyd's Register Foundation

009139-009143-0239

Dates of Survey while building: During progress of work in shops - 1950 Feb. 24 Mar 20 Apr 12-13-26 May 8.  
 During erection on board vessel -  
 Total No. of visits (in shops) - 6.

Dates of Examination of principal parts—Cylinders 24.7.50 Covers 13.4.50 Pistons 12.4.50 Piston rods ✓  
 Connecting rods 12.4.50 Crank and Flywheel shafts Combined 20.3.50 Intermediate shafts ✓

Crank shaft: Material S.M.S Tensile strength 42.8 tons/in<sup>2</sup>  
 Elongation 32% Identification Marks L/84/66 4363/4:20.3.50:N.C.T.:18.

Flywheel shaft, Material ✓ Identification Marks ✓

Identification marks on Air Receivers C.T. Co No 99316: 110yds T.P. 1100 1/2" : W.P. 550 1/2" : R.R. 4.10.49

Is this machinery duplicate of a previous case? Yes If so, state name of vessel Wm. Hamilton & Co Ltd Yard No 480

**GENERAL REMARKS** (State quality of workmanship, opinions as to class, &c.)

This Auxiliary Engine has been constructed under Special Survey in accordance with the Rules, approved Plans Secretary's letters.

The material and workmanship are good.

On completion the engine has been subjected to full load trials on ship's test bed at 800 R.P.M. coupled to a 40 H.P. 110 V.A.C. electric generator manufactured by Sunderland Forge Eng Co Ltd.

The unit has been dispatched to Messrs Wm. Hamilton & Co. Ltd for installation in yard No 482, where it will be further examined under working conditions.

Approved plans of shafting already forwarded with Glas Y's Rpt 44536.

This engine has been efficiently installed in the vessel & tested under full working engine conditions with satisfactory results.

Charles W. Hunter  
 Glasgow  
 21/8/50

The amount of Fee ... £ 4 : - : ✓ When applied for 20 JUL 1950 19.

Travelling Expenses (if any) £ : : When received 19.

Committee's Minute GLASGOW 20 JUL 1950

Assigned Deferred for comp.

