

REPORT ON OIL ENGINE MACHINERY.

No. 13532.

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Survey Report 29th Mar 1957. When handed in at Local Office 29th Mar 1957. Port of Hong Kong.

Survey held at Hong Kong. Date, First Survey 2nd Oct., 1956. Last Survey 28th March, 1957. Number of Visits 25.

Single on the ~~Top~~ ~~Triple~~ ~~Quadruple~~ Screw vessel "SILVER DRAGON" Tons Gross 1049.34 Net 481.77
Hong Kong. By whom built Cheoy Lee Shipyard. Yard No. 652 When built 1957.
Made at Koln - Germany. By whom made Klockner - Humboldt - Deutz Engine No. 2081505-512 When made 6-56.
Boilers made at - By whom made - Boiler No. - When made -
Power 910 Owners Samik Trading Co. Port belonging to Inchon.
As per Rule 182 Is Refrigerating Machinery fitted for cargo purposes No. Is Electric Light fitted Yes.
Which vessel is intended International.

INES, &c. - Type of Engines Heavy Oil Supercharged RBV8M 545 2 or 4 stroke cycle 4 Single or double acting Single.
Pressure in cylinders 60 Kg/cm² Diameter of cylinders 320 mm Length of stroke 450 mm No. of cylinders 8 No. of cranks 8
Indicated Pressure 9.06 Kg/cm² Ahead Firing Order in Cylinders 1-3-4-7-8-6-5-2 Span of bearings, adjacent to the crank, measured
Edge to inner edge 346 mm Is there a bearing between each crank Yes. Revolutions per minute 375.
Diameter 1500 mm Weight 3300 Kg Moment of inertia of flywheel (lbs.ft² or Kg.cm²) 5000 Means of ignition Compr. Kind of fuel used Diesel.
Solid forged dia. of journals as per Rule Approved. 210 mm. Crank pin dia. 210 mm. Crank webs Mid. length breadth 350 mm. Thickness parallel to axis -
as fitted 220 mm. Mid. length thickness 93 mm shrunk Thickness around eye-hole -
Bolted to flange at as per Rule Approved. 2 1/8" Thrust Shaft, diameter at collars as fitted -
Shaft, diameter as fitted end of crankshaft. Intermediate Shafts, diameter as fitted 8 7/8" as per Rule -
ft, diameter as fitted - Screw Shaft, diameter as fitted 8-11/16" Is the ~~shaft~~ screw shaft fitted with a continuous liner Yes.
Liners, thickness in way of bushes as per Rule 9/16" Thickness between bushes as per Rule 27/64" Is the after end of the liner made watertight in the
boss Yes. If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner Yes.

er 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-
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
e shaft No. If so, state type - Length of bearing in Stern Bush next to and supporting propeller 3'-0"

, dia 1890 mm Pitch 1130 mm No. of blades 4 Material Bronze. whether moveable No. Total developed surface 55%
of inertia of propeller (lbs.in² or Kg.cm²) 445 KgM² Kind of damper, if fitted Vibration Damper.
of reversing Engines Direct Is a governor or other arrangement fitted to prevent racing of the engine ~~xxxxxx~~ Yes. Means of

n Forced Thickness of cylinder liners 20 mm Are the cylinders fitted with safety valves Yes. Are the exhaust pipes and silencers water cooled
with non-conducting material Both If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned

he engine - Cooling Water Pumps, No. Two Is the sea suction provided with an efficient strainer which can be cleared within the vessel Yes.
Capacity 15 tons/hour
mps worked from the Main Engines, No. One ~~xxxxxx~~ Stroke Can one be overhauled while the other is at work -

connected to the Main Bilge Line No. and size Three Two 75 tons per hour. One 15 tons per hour
How driven Motor Driven Main Engine.

oling 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

ents - Two G.S. each One 130 ltr. per mm.
Pumps, No. and size 75 T.P.H. Power Driven Lubricating Oil Pumps, including spare pump, No. and size Two One 180 ltr. per mm.

independent means arranged for circulating water through the Oil Cooler Yes. Suctions, connected to both main bilge pumps and auxiliary
mps, No. and size: - In machinery spaces Four each 3" dia. In pump room -

, &c No. 1 Hold 2 x 2 1/2" dia. No. 2 Hold 2 x 2 1/2" dia. Cofferdam 2" dia.
dent Power Pump Direct Suctions to the engine room bilges, No. and size One 3" dia.

he bilge suction pipes in holds ~~xxxxxx~~ fitted with strum-boxes Yes. Are the bilge suction in the machinery spaces led from easily
e mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges Yes.

Sea Connections fitted direct on the skin of the Ship Yes. Are they fitted with valves or cocks Valves. Are they fixed
tly 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.

, 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. -
ipes pass through the bunkers None. How are they protected -

ipes pass through the deep tanks None. Have they been tested as per Rule -
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
or from one compartment to another. Yes. Is the shaft tunnel watertight - Is it fitted with a watertight door - worked from -

ood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork. -
Air Compressors, No. One No. of stages Two 60x145 mm 85 mm driven by Main Engine.

ary Air Compressors, No. One No. of stages Two Capacity 30 cub. metres/hour driven by Diesel Eng.

25, Auxiliary Air Compressors, No. No. of stages diameters stroke driven by
30, provision is made for first charging the air receivers Compressor driven by Diesel Engine.
Aug, One exhaust turbine blower stroke driven by
8, ing Air Pumps, No. diameter position No. Two Engine Room 1 port 1 starboard.

97, iary Engines crank shafts, diameter as per Rule 3-19/32" Position Engine Room 1 port 1 starboard.
the auxiliary engines been constructed under special survey - Is a report sent herewith

012744-012751-0156

AIR RECEIVERS:—Have they been made under survey Yes. State No. of report or certificate Cert. HNO
Is each receiver, which can be isolated, fitted with a safety valve as per Rule Yes. Cert. HNO
Can the internal surfaces of the receivers be examined and cleaned Yes. Is a drain fitted at the lowest part of each receiver Yes. Cert. DF

Injection Air Receivers, No. — Cubic capacity of each — Internal diameter — thickness —
Seamless, welded or riveted longitudinal joint — Material — Range of tensile strength — Working pressure —
Starting Air Receivers, No. Three Total cubic capacity 1250 Ltrs. Internal diameter 460 mm. thickness 10 mm.
Seamless, welded or riveted longitudinal joint Welded. Material S.M. Steel. Range of tensile strength 47/53 Kg. mm² Working pressure —

IS A DONKEY BOILER FITTED No. If so, is a report now forwarded —

Is the donkey boiler intended to be used for domestic purposes only —

PLANS. Are approved plans forwarded herewith for shafting 6-3-53. Receivers 17-9-51. Separate fuel —
(If not, state date of approval) General pumping arrangements 19-12-56. Pumping arrangements in machinery space 19-12-

Donkey boilers — Oil fuel burning arrangements —

Have Torsional Vibration characteristics been approved Yes. Date of approval 20-8-56.

SPARE GEAR.

Has the spare gear required by the Rules been supplied Yes.

State the principal additional spare gear supplied

Crankcase explosion relief valves fitted.

The foregoing is a correct description,

Manufacturer.

CHEOY LEE SHIPYARD

Dates of Survey while building During progress of work in shops — 1956 Oct. 2, 7, 10, 27. Nov. 1, 3, 9, 16, 19, 28. Dec. 6, 8, 13, 20, 22.
During erection on board vessel — 1957 Jan. 8, 10, Feb. 4, 11, Mar. 7, 13, 15, 23, 26, 28.
Total No. of visits 25.

Dates of examination of principal parts—Cylinders — Covers — Pistons — Rods — Connecting rods —

Crank shaft — Flywheel shaft — Thrust shaft — Intermediate shafts 9-10-56. Tube shaft —

Screw shaft 9-10-56. Propeller — Stern tube 5-10-56. Engine seatings 27-10-56. Engine holding down bolts 15-10-56.

Completion of fitting sea connections 27-10-56. Completion of pumping arrangements 26-3-57. Engines tried under working conditions 26-3-57.

Crank shaft, material Steel Identification mark Lloyd's KLN 289W21 Flywheel shaft, material — Identification mark —

Thrust shaft, material — Identification mark — Intermediate shafts, material Steel Identification marks —

Tube shaft, material — Identification mark — Screw shaft, material Steel Identification mark —

Identification marks on air receivers Lloyd's Test H.N.O. T.P. 60 ATM WP 30 ATM H.L. 12-5-56 No. 14896.
Lloyd's Test H.N.O. T.P. 60 ATM WP 30 ATM H.L. 12-5-56 No. 14898.
Lloyd's Test D.S.F. T.P. 60 ATM WP 30 ATM K.M. 12-11-52 No. 7658.

Welded receivers, state Makers' Name Ruhrstahlwerk A.G. Brackwede.

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.

Description of fire extinguishing apparatus fitted 2 x 10 gall. foam. 2 x 2 gall. foam. 1 qt. C.T.C. extinguisher.

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 of this vessel, built under survey by the Society's Surveyors at Koln,

been installed under Special Survey in accordance with the approved plans and Secretary's 1

All necessary materials have been satisfactorily tested and the workmanship is good. On

completion of installation the machinery was examined under working conditions, found satis

and in my opinion is eligible to be classed as contemplated.

Documents forwarded herewith - Report 6 on forgings.

The amount of Entry Fee ... \$1,280.00

Special ... £ : : When applied for 28/3/ 19

Donkey Boiler Fee... £ : : When received 19

Travelling Expenses (if any) \$ 21.00

(Committee's Minute

Assigned

FRIDAY 23 AUG 1957

+ Linc

ES 3.57

James A. Anderson

Engineer Surveyor to Lloyd's Register of Ships

Lloyd's Register

Foundation