

REPORT ON OIL ENGINE MACHINERY.

No. 250028 OCT 1953

Received at London Office

Date of writing Report 3RD OCTOBER 1953. When handed in at Local Office 8TH OCTOBER 1953. Port of GREENOCK

No. in Survey held at GREENOCK Date, First Survey 7/5/51 Last Survey 29/9/1953

eg. Book. 5195 on the Single Screw vessel "ALVA CAPE" Tons Gross 11252 Net 6420.88

built at GREENOCK By whom built GREENOCK DOCKYARD CO., LTD. Yard No. 480 When built 9/1953

Engines made at GREENOCK By whom made SCOTTS S.X.E. CO., LTD. Engine No. 743 When made 9/1953

Donkey Boilers made at GREENOCK By whom made T.G. KINCAID & CO., LTD. Boiler No. 410 When made 9/1953

* Maximum 7150 MACHINERY INSTALLED BY T.G. KINCAID & CO., LTD. Col. No. 410

Brake Horse Power Service 6600 V Owners ALVA S.S. CO., LTD. (NAVIGATION & COAL TRADE CO., LTD. MGRS.) Port belonging to LONDON

N. as per Rule 1320 1430 V Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted YES

ade for which vessel is intended CARRYING PETROLEUM IN BULK.

L. ENGINES, &c. Type of Engines SCOTT-DOXFORD 67LB6 2 or 4 stroke cycle 2 Single or double acting SINGLE

Maximum pressure in cylinders 640 lbs/sq. in Diameter of cylinders 670mm Length of stroke 2320 V No. of cylinders 6 No. of cranks 6 MAIN

Mean Indicated Pressure 90 lbs/sq. in Span of bearings (i.e., distance between inner edges of bearings in CENTRES OF SIDE ROOFS

Length of a crank 1300mm Is there a bearing between each crank No Revolutions per minute Maximum 116 Service 114

Flywheel dia. 4.98 ft. 1.3 TONS Moment of inertia of flywheel (lbs ft. sq. in.) 66 Means of ignition COMP Kind of fuel used oil

Weight 6.1 TONS balance wts. (" " " ")

ank dia. of journals as per Rule AS APPROVED Crank pin dia. 530 V Crank webs Mid. length breadth 754 Thickness parallel to axis 300

shaft, Semi built dia. of journals as fitted 530mm Crank webs Mid. length thickness 300 Thickness around eye hole 222

Wheel Shaft, diameter as per Rule AS APPROVED Intermediate Shafts, diameter as fitted 16" Thrust Shaft, diameter at collars as fitted 500

SHAFT WITH THRUST as fitted 460

be Shaft, diameter as per Rule AS APPROVED Screw Shaft, diameter as fitted 18" Is the (screw) shaft fitted with a continuous liner YES

onze Liners, thickness in way of bushes as per Rule AS APPROVED Thickness between bushes as fitted 5/8 Is the after end of the liner made watertight in the

propeller boss YES If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner.

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-

rosive. If two liners are fitted, is the shaft lapped or protected between the liners. Is an approved Oil Gland fitted at the after

of stern tube No If so, state type. Length of bearing in Stern Bush next to and supporting propeller 5-8 3/4

propeller, dia. 18'-6" Pitch 12'-9" No. of blades 4 Material BRONZE whether moveable FIXED Total developed surface 134 sq. feet

ment of inertia of propeller including entrained water (lbs ft. sq. in.) 600,000 Kind of dumper, if fitted 61664 DETONER

ethod of reversing Engines DIRECT As a governor or other arrangement fitted to prevent racing of the engine YES Means of

rication FORCED Thickness of cylinder liners 25mm Are the cylinders fitted with safety valves YES Are the exhaust pipes and silencers water cooled

agged with non-conducting material YES If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned

to the engine. Cooling Water Pumps, No. and how driven 4 - STEAM Working F.W. 1

Spare F.W. 1 S.W. 1 Is the sea suction provided with an efficient strainer which can be cleared within the vessel YES

ge Pumps worked from the Main Engines, No. and capacity NONE Can one be overhauled while the other is at work.

aps connected to the Main Bilge Line No. and capacity of each BILGE PUMP 7"x8"x8" BALLAST PUMP 7"x8"x8"

How driven STEAM STEAM

he cooling 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

ngements.

ast Pumps, No. and capacity 1 x 110 TONS/Hr. Power Driven Lubricating Oil Pumps, including spare pump, No. and size 2 @ 70 TONS/Hr. EACH

two independent means arranged for circulating water through the Oil Cooler YES Branch Bilge Suctions 4 1/2"

and size:—In machinery spaces 2 x 4 1/2", 1 x 3 1/2" ONLY BILGES 2 x 2 1/2" & DUNS 1 x 4", 1 x 2 1/2" In pump rooms MAID. 2 x 4" AUX. 1 x 2 1/2"

olds, &c. FOREHOLD 2 x 2 1/2"

et Bilge Suctions to the engine room bilges, No. and size 1 x 9", 1 x 6"

all the bilge suction pipes in holds and tanks fitted with strum-boxes. YES Are the bilge suction in the machinery spaces led from easily

isible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges. YES

ull Sea Connections fitted direct on the skin of the Ship. YES Are they fitted with valves or cocks. BOTH Are they fixed

iently 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 BELOW

hey 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

pipes pass through the bunkers. NONE How are they protected.

pipes pass through the deep tanks. NONE Have they been tested as per Rule.

all 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

es, or from one compartment to another. YES Is the shaft tunnel watertight. NONE Is it fitted with a watertight door. worked from.

wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork.

on Air Compressors, No. 2 No. of stages 3 diameters 12 3/4", 10 1/2", 3" stroke 7" driven by STEAM

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provision is made for first charging the air receivers. AUXILIARY COMPRESSORS STEAM DRIVEN.

enging Air Pumps No. 3 How driven MAIN ENGINE

Have they been made under survey. No. CRANKSHAFTS YES Engine Nos. 46399, 46401 & 46403

Makers name SUNDERLAND FORGE Position of each in engine room ON FLAT, STAGED, E.S. RM.

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005056-005060-0145

AIR RECEIVERS:—Have they been made under survey **YES** State No. of report or certificate **✓**
State full details of safety devices **RELIEF VALVE FITTED ON CHARGING AIR LINE. EACH RECEIVER FITTED WITH FUSIBLE PLUG.**
Can the internal surfaces of the receivers be examined and cleaned **YES** Is a drain fitted at the lowest part of each receiver **YES**
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. **2** Total cubic capacity **400 FT³** Internal diameter **4-6"** thickness **1 1/2"**
Seamless, welded or riveted longitudinal joint **RIVETED** Material **STEEL** Range of tensile strength **29/33 TONS** Working pressure **600 lbs/sq"**
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**
PLANS. Are approved plans forwarded herewith for shafting **YES** Receivers **YES** Separate fuel tanks **YES**
Donkey boilers **YES** General pumping arrangements **YES - WITH SHIP PLANS.** Pumping arrangements in machinery space **YES**
Oil fuel burning arrangements **YES**
Have Torsional Vibration characteristics been approved **YES** Date and particulars of approval **5/10/51. APPROVED FOR SERVICE SPEC OF 114 R.P.M. & TRIAL SPEED OF 116 R.P.M. ENGINE NOT TO BE OPERATED CONTINUOUSLY BETWEEN 44 & 54 R.P.M.**
SPARE GEAR.
Has the spare gear required by the Rules been supplied **YES** State if for "short voyages" only **No**
State the principal additional spare gear supplied **COMPLETE LIST OF SPARE GEAR ATTACHED TO REPORT**

MAIN ENGINE.
SCOTT'S
SHIPBUILDING & ENGINEERING CO. LTD.
GREENOCK
A. E. Fothergill
ENGINEERING DRAWING OFFICE
8 SEP 1953
The foregoing is a correct description
Chief Draughtsman.
Dates of Survey while building
During progress of work in shops - (1951) MAY 7. 15. 21. 24. 29. 30. JUNE 4. 11. 12. 13. 14. 18. 20. 21. SEPT 6. OCT 2. 19. NOV 5. 23. DEC 10. (1952) JAN 10. 31. FEB 8. 18. 19. 20. MAR 6. 7. 11. APR 8. 12. 29. MAY 20. JUNE 26. JULY 24. 29. AUG 12. 21. 25. 28. SEPT 2. 4. 23. 25. 30. OCT 2. 7. 9. 16. 21. NOV 3. 4. 10. 11. 13. 20. DEC 2. 3. 8. 9. 11. 16. 18. 26. (1953) JAN 8. 13. 21. 22. 27. FEB 3. 5. 6. 9. 11. 20. MAR 2. 4. 6. 10. 11. 13. 16. 18. 19. 20. 25. 27. 30. APRIL 1. 3. 8. 10. 15. 22. 24. 29. MAY 4. 6. 8. 15. 18. 20. 22. JUNE 1. 3. 5. 8. 10. 11. 12. 15. 16. 17. 18. 22. 23. 24. 26. 29. JULY 3. 20. 22. 24. 27. 29. 31. AUG 3. 7. 10. 12. 14. 17. 18. 19. 20. 26. 27. 28. 31. SEPT 1. 2. 7. 10. 17. 25.
Total No. of visits **148**
Dates of examination of principal parts—Cylinders **10/11/52 TO 8/12/52** Covers **✓** Pistons **15/4/52 TO 21/10/52** Rods **12/1/53** Connecting rods **4/4/52 TO 12/1/53**
[PARTS MANUFACTURED BY] Crank shaft **ENGL. STEEL CO.** Flywheel shaft **INTEGRAL WITH** Thrust shaft **ENGL. STEEL CO.** Intermediate shafts **18/2/53 TO 5/2/53** Tube shaft **✓**
Screw shaft **16/3/53 TO 18/3/53** Propeller **16/3/53 TO 18/3/53** Stern tube **3/4/53** Engine seatings **3/4/53** Engine holding down bolts **2/7/53**
Completion of fitting sea connections **3/4/53** Completion of pumping arrangements **10/9/53** Engines tried under working conditions **25/9/53**
Crank shaft, material **SEE NEWCASTLE CERT. NO. C39127** Identification mark **✓** Flywheel shaft, material **AS THRUST (2, OFF)** Identification mark **✓**
Thrust shaft, material **✓** Identification mark **✓** Intermediate shafts, material **SEE G.S. REPORT T.S. 14305** Identification marks **✓**
Tube shaft, material **✓** Identification mark **✓** Screw shaft, material **SEE G.S. REPORT T.S. 14305** Identification mark **✓**
Identification marks on air receivers
Welded receivers, state Makers' Name **✓**
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**
Full description of fire extinguishing apparatus fitted in machinery spaces **STEAM & CHEMICAL - [LIST OF APPLIANCES ACCOMPANIES REPORT ALSO ARRGT. OF FIRE EXTING. STEAM PIPES]**
Is the vessel (being an oil tanker) fitted for carrying oil as cargo **YES** If so, have the requirements of the Rules been complied with **YES**
What is the special notation desired **✓**
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, Speed restrictions, &c.) **THE MACHINERY OF THIS VESSEL HAS BEEN CONSTRUCTED UNDER SPECIAL SURVEY IN ACCORDANCE WITH THE APPROVED PLANS AND THE RULES OF THIS SOCIETY. THE MATERIALS AND THE WORKMANSHIP ARE GOOD. THE MACHINERY HAS BEEN EFFICIENTLY INSTALLED ON BOARD THE VESSEL AND TRIED UNDER FULL WORKING CONDITIONS WITH SATISFACTORY RESULTS. THE MACHINERY IS ELIGIBLE, IN MY OPINION, TO BE CLASSED IN THE REGISTER BOOK WITH THE RECORD OF + LMC 9/53 AND NOTATIONS TS CL, 2DB 220 lbs/sq"**
N.B. NOTICE BOARD FITTED AT THE CONTROL STATION STATING THAT THE ENGINE IS NOT TO BE OPERATED CONTINUOUSLY BETWEEN 44 X 54 R.P.M.

The amount of Entry Fee **ENGINE £242-0-0 SCOTT'S S. & E. CO.**
Special Installation **£136-0-0** When applied for **8 OCT 1953.**
Donkey Boiler Fee **£12-0-0** When received **19**
Travelling Expenses (if any) £ **—**
Committee's Minute **GLASGOW 27 OCT 1953**
Assigned **+ LMC 9.53 Oil Engine with torsional endorsement 2 DB. - 220 lb.**
H.K. Taylor.
Engine Surveyor to Lloyd's Register of Shipping.
Lloyd's Register Foundation