

REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office

27 NOV 1929

Date of writing Report 18-11-1929 When handed in at Local Office 22-11-1929 Port of Greenock

No. in Survey held at Port Glasgow Date, First Survey 22nd February 1929 Last Survey 20th Nov^r 1929
Reg. Book. on the S.S. DISCOVERY 11 (Number of Visits 55)

Built at Port Glasgow By whom built Mess^{rs} Ferguson Bros (Port Glasgow) Ltd Yard No. 295 Tons } Gross 1036
Net 344
When built 1929

Engines made at Port Glasgow By whom made " " " Engine No. 295 when made 1929

Boilers made at Greenock By whom made Mess^{rs} J. G. Kincaid & Co Ltd Boiler No. 192 when made 1929

Registered Horse Power Owners Government of the Falkland Islands Port belonging to London

Nom. Horse Power as per Rule 221 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

Trade for which Vessel is intended Ocean Research

ENGINES, &c.—Description of Engines Triple expansion Revs. per minute 120

Dia. of Cylinders 18-28 1/2-48 1/4 Length of Stroke 28" No. of Cylinders 3 No. of Cranks 3

Crank shaft, dia. of journals as per Rule 9.15 Crank pin dia. 9 1/2" Crank webs Mid. length breadth 18 1/4 Thickness parallel to axis 6 1/8
as fitted 9 1/2" Mid. length thickness 6 1/8 shrunk Thickness around eye-hole 4 1/4 4 1/2

Intermediate Shafts, diameter as per Rule 8.41 Thrust shaft, diameter at collars as per Rule 9.15
as fitted 9" as fitted 9 1/2"

Tube Shafts, diameter as per Rule 10 1/2 FOR I.C.E. Screw Shaft, diameter as per Rule 10 3/4 Is the tube screw shaft fitted with a continuous liner NO
as fitted 10 3/4

Bronze Liners, thickness in way of bushes as per Rule ✓ Thickness between bushes as per Rule ✓ Is the after end of the liner made watertight in the
as fitted ✓ as fitted ✓

Propeller boss ✓ If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner ✓

If 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-corrosive ✓

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
end of the tube shaft Yes. Ferguson Bros. ✓ Length of Bearing in Stern Bush next to and supporting propeller 4'-5 3/4"

Propeller, dia. 10'-9" Pitch 12'-0" No. of Blades 4 Material BRONZE whether Moveable YES Total Developed Surface 36 sq. feet

Feed Pumps worked from the Main Engines, No. NONE Diameter ✓ Stroke ✓ Can one be overhauled while the other is at work ✓

Bilge Pumps worked from the Main Engines, No. NONE Diameter ✓ Stroke ✓ Can one be overhauled while the other is at work ✓

Feed Pumps { No. and size 2-6 8 1/2 x 18, 1-5 1/4 x 12 Pumps connected to the Main Bilge Line { No. and size 1-8 1/4 x 18, 1-5 1/4 x 12
How driven STEAM How driven STEAM

Ballast Pumps, No. and size 1-8 1/4 x 18, 1-5 1/4 x 12 Lubricating Oil Pumps, including Spare Pump, No. and size ✓

Are two independent means arranged for circulating water through the Oil Cooler ✓ Suctions, connected to both Main Bilge Pumps and Auxiliary
Bilge Pumps;—In Engine and Boiler Room 5-2" bore

Overboard Discharges, No. and size 4 or 3-2, aft 1-2, 1-2 1/4

Main Water Circulating Pump Direct Bilge Suctions, No. and size 1-4" Independent Power Pump Direct Suctions to the Engine Room Bilges,
No. and size 1-3 1/4" Are all the Bilge Suction Pipes in holds and tunnel well fitted with strum-boxes Yes

Are the Bilge Suctions in the Machinery Space led from easily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges Yes

Are all Sea Connections fitted direct on the skin of the ship Yes Are they fitted with Valves or Cocks both

Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates Yes Are the Overboard Discharges above or below the deep water line above

Are they 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

What Pipes pass through the bunkers NONE How are they protected ✓

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

Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times Yes

Is the 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 spaces, or from one
compartment to another Yes Is the Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from deck

MAIN BOILERS, &c.—(Letter for record S) Total Heating Surface of Boilers 3556 square feet

Forced Draft fitted Yes No. and Description of Boilers 2. S. B. Working Pressure 200 LBS

IS A REPORT ON MAIN BOILERS NOW FORWARDED? Yes

IS A DONKEY BOILER FITTED? NO If so, is a report now forwarded? ✓

PLANS. Are approved plans forwarded herewith for Shafting YES Main Boilers YES Auxiliary Boilers ✓ Donkey Boilers ✓
(If not state date of approval)

Superheaters ✓ General Pumping Arrangements YES Oil fuel Burning Piping Arrangements YES

SPARE GEAR. State the articles supplied:—2 top end bolts & nuts, 2 bottom end bolts & nuts, 2 Main bearing bolts & nuts, 1 set of coupling bolts & nuts, 1 propeller shaft, 4 propeller blades, 50 condenser tubes, 1 set each of feed & bilge pump valves, Assorted bolts and nuts, Iron of various sizes.

The foregoing is a correct description,
FERGUSON BROTHERS (PORT-GLASGOW), LTD.
Peter Ferguson DIRECTOR

Manufacturer.



(1929) Feb. 22-24 Mar. 20-24 April 2-10 23-25-26-29 May 2-6 8-13-21-24-29 June 10-13-19-21-24 July 19-23-26 Aug 2-5-4-12-14
 During progress of work in shops - - - 15-19-22-23-30 Sept 11-16-24-25-26-29 Oct 1-2-4-12-15-16-17-18-24 Nov 2-4-12-13-20
 Dates of Survey while building { During erection on board vessel - - -
 Total No. of visits 55

Dates of Examination of principal parts—Cylinders 24-5-29 Slides 6-5-29 Covers 24-5-29
 Pistons 6-5-29 Piston Rods 19-6-29 Connecting rods 10-6-29
 Crank shaft 10-6-29 Thrust shaft 10-6-29 Intermediate shafts 10-6-29
 Tube shaft ✓ Screw shaft 10-6-29 Propeller 10-6-29
 Stern tube 2/8/29 Engine and boiler seatings 24-6-29 Engines holding down bolts 28-8-29
 Completion of fitting sea connections 11-9-29
 Completion of pumping arrangements 4-11-29 Boilers fixed 23-4-29 Engines tried under steam 13-11-29
 Main boiler safety valves adjusted 4-11-29 Thickness of adjusting washers P 5/16" S 1/32" B P 1/32" S 9/32"
 Crank shaft material MILD STEEL Identification Mark J.D. 8365 Thrust shaft material MILD STEEL Identification Mark J.D. 8415
 Intermediate shafts, material MILD STEEL Identification Marks J.D. 8419 Tube shaft, material ✓ Identification Mark ✓
 Screw shaft, material MILD STEEL Identification Mark J.D. 8419 Steam Pipes, material S.D. STEEL Test pressure 600 LBS. Date of Test 1-10-29
 Is an installation fitted for burning oil fuel YES Is the flash point of the oil to be used over 150°F. YES
 Have the requirements of the Rules for carrying and burning oil fuel been complied with YES
 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, has been built under special survey, in accordance with the Rules and approved plans. The workmanship and materials are good. The engines and boilers have been securely fitted on board, and tried under full power with satisfactory results. The machinery is eligible, in my opinion, to be classed in the Register Book + LMC 11-29, and to have the notation of 'Fitted for Oil fuel 11-29 flash point above 150°F'.
 NOTE: The requirements of the Rules for 'Navigation in Ice' as noted in Section H.I. Para 5-6-4 & 8 have been carried out.
 Copy of interim certificate attached.

It is submitted that this vessel is eligible for THE RECORD. + LMC 11-29. O.G. F.D. Fitted for oil fuel 11-29 flash point above 150°F.

J.A. 28/11/29
 J.A.

48807
 22/11/29

Certificate to be sent to Greenock
 The Surveyors are requested not to write on or below the space for Committee's Minute.

The amount of Entry Fee ... £ 4 : 0 :
 Special ENGINES. £ 24 : 19 :
 Donkey Boiler Fee ... £ : :
 Travelling Expenses (if any) £ : :
 When applied for, 21st NOVEMBER 1929
 When received, 22-11-1929

J.A. wey
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 26 NOV 1929

Assigned + LMC 11,29 70.

Fitted for oil fuel 11,29 flash point above 150°F.

