

Date of writing report 15.10.62 Received London _____ Port CALCUTTA No. 20943
 Survey held at Calcutta No. of visits 9 In shops 9 First date 1.3.62 Last date 19.7.62
 On vessel 8 First date 12.7.62 Last date 24.9.62

FIRST ENTRY REPORT ON STEAM RECIPROCATING MACHINERY

No. in R.B. _____ Name AGNIJOY Gross tons _____
 Owners CALCUTTA PORT COMMISSIONERS Managers _____ Port of Registry CALCUTTA
 Hull built at CALCUTTA By HOOGHLY DOCKING & ENG. CO. LTD. Yard No. 4142 Year _____ Month _____
 Main Engines made at CALCUTTA By HOOGHLY DOCKING & ENG. CO. LTD. Eng. No. ME.11 & ME.12 When 1962
 Boilers made at GLASGOW By DAVID ROWAN & CO. LTD. Blr. Nos. B 623 When 1961
 Machinery installed at CALCUTTA By THE HOOGHLY DOCKING & ENG. CO. LTD. When 1962

Particulars of restricted service of ship, if limited for classification _____
 Is ship to be classed for navigation in ice? No Particulars of vegetable or similar cargo oil notation, if required No
 Is ship intended to carry petroleum in bulk? No
 Is refrigerating machinery fitted? No If so, is it for cargo purposes? _____ Type of refrigerant _____
 Is the refrigerating machinery compartment isolated from the propelling machinery space? _____ Is the refrigerated cargo installation intended to be classed? _____

The following particulars should be given as fully and as clearly as possible. Dashes, ticks and other signs of doubtful meaning are not to be used. Wording not applicable to the installation may be cancelled with a black line

BOILERS AND OTHER STEAM PRESSURE VESSELS.

No. of main boilers ONE Type and licence name, if any MARINE HORIZONTAL RETURN TUBE Position ENGINE ROOM
 Saturated safety valve pressure 200 PSIG. Steam temperature if superheated _____ Superheater safety valve pressure _____
 Natural or forced draught FORCED DRAUGHT Fuel FURNACE OIL Report on main boilers (Port and No.) GLASGOW No. 92373
 No. of aux./donkey boilers NONE Type _____ W.P. _____ Position _____
 No. of steam heated steam generators NONE W.P. _____ No. of evaporators NONE W.P. _____
 Report on aux./donkey boilers or steam generators (Port and No.) NONE FITTED
 If the boilers are oil fired, is the arrangement of pipes, valves and controls in accordance with the Rules? YES
 No. and position of oil burning pressure units TWO IN ENGINE ROOM.
 No. and position of oil fuel settling or service tanks not forming part of hull structure NONE
 No. of forced draught fans and fan engines ONE

MAIN ENGINES (If the main engines have been constructed at another Port and are covered by a separate report, the particulars given in that report need not be repeated below, but the Port and Report No. should be stated)

Description and licence name, if any TRIPLE EXPANSION. UNDER LICENSE FROM M/S. PLENTY & SON. NEWBURY. U.K.
 No. of main engines TWO No. of screws TWO Max. total I.H.P. 1000 with _____ per cent. H.P. cut off at 160 R.P.M.
 No. of cylinders per engine THREE Dia. of cylinders (in sequence from fwd. to aft) 11 3/4" x 19 3/4" x 33 1/2" Stroke 22"
 Machinery numeral 170 Type of valves HP & IP PISTON, L.P. SLIDE. Type of valve gear LINK MOTION (STEVENSON TYPE)
 If engine is of enclosed forced lubricated type state crankcase volume _____ No. and total area of explosion relief devices fitted? _____
 Which cylinders operate on Uniflow principle? NONE Is a steam reheater fitted? No Is a governor fitted? No
 Are the main engine frames or bedplate of welded construction? No Is the main engine secured directly to the tank top or to a built-up seating? BUILT UP SEATING.
 Is an exhaust steam turbine fitted? No S.H.P. of turbine _____ R.P.M. _____ Description of turbine and drive _____

SHAFTING

Working pressure for which shafting has been approved 200 PSIG. Date of approval of torsional vibration characteristics of the propelling machinery system, if required NOT REQUIRED State barred speed range, if imposed NONE
 CRANK SHAFT type—Built, Semi-built, Solid forged. Dia. of journals 6 5/8" Dia. of pins 6 5/8"
 Breadth of webs at mid length 12 1/2" Thickness 4 1/4" If shrunk, thickness around eyeholes { 2 13/16" FOR MAIN PIN, 2 1/16" FOR CRANK PIN.
 Are dowel pins fitted? YES Crank shaft material MILD STEEL Minimum approved tensile strength 28 TONS PER SQ. INCH.
 THRUST SHAFT Dia. at collar(s) 6 5/8" Material MILD STEEL Minimum approved tensile strength 28 TONS PER SQ. INCH.



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INTERMEDIATE SHAFT. Dia. NONE Material - Minimum approved tensile strength -
 SCREW SHAFT. Dia. of cone at large end 7/8" Is screwshaft fitted with a continuous liner? No.
 TUBE SHAFT. Dia. (if these are separate shafts) NONE Is tube shaft fitted with a continuous liner in way of stern tube? No.
 Thickness of screw/tube shaft liner at bearings NONE Thickness between bearings -
 Is an approved oil gland fitted? YES If so, state type NEWARK
 Length of bearing next to and supporting propeller 36" Material of bearing WHITE METAL
 In multiple screw vessels is the liner between stern tube and A bracket continuous? NONE FITTED. If not, is the exposed length of shafting between liners readily visible in drydock? INSIDE TUBE
 Material of screw/tube shaft MILD STEEL Minimum approved tensile strength 28 TONS PER SQ. INCH

PROPELLER
 Dia. of propeller 8'-6" Pitch 8'-9.06" Built-up or solid? SOLID Total developed surface 24.1 SQ. FT. No. of blades 4
 Blade thickness at top of root fillet 3.32" Blade material MANGANESE BRONZE Moment of inertia of dry propeller -
 if known NOT KNOWN. If propeller is of special design, state type No.
 Is propeller of reversible pitch type? No If so, is it of approved design? - State method of control -
 Material of spare propeller MANGANESE BRONZE Moment of inertia of spare propeller, if known NOT KNOWN.

MAIN ENGINE DRIVEN PUMPS. (State No. of each and give capacity of bilge pumps at normal revolutions)
 AIR NIL CIRCULATING NIL FEED NIL LUB. OIL NIL BILGE NIL

INDEPENDENT PUMPS

Name below each essential pump and state its position. Give capacity of bilge pumps.	Service for which each pump is connected to be marked thus X													
	SUCTION							DELIVERY						
	Bilge Main	Bilge Direct	Ballast Main	Oil Fuel Main	Condr. Extr.	Sea	Feed Tanks	Boiler Feed	Main Condr. Coolg.	Oil Fuel Burners	Oil Fuel Tanks	Fire Main	OVER BOARD	
BILGE: 30 TONS PER HOUR	X	X				X			X			X	X	
GENERAL SERVICE 30 TONS/HK.	X	X				X		X				X	X	
CIRCULATING.						X		X						
FEED PUMPS					X	X	X	X						
FUEL OIL				X					X				X	
AIR					X									

If the main engine is of forced lubricated type state No. of lubricating oil pumps, including spare pump and No. of oil coolers No.

BILGE SUCTIONS
 No. and size in each hold, deep tank or pump room 1-2" AFT PEAK; 1-2" AFT CREWS ACCO; 1-2" FORD CREWS ACCOMMODATION
1-2" FORE PEAK
 No. and size connected to main bilge line in main engine room 6-2" In aux. engine room NONE
 (COMMON WITH ENGINE)
 In boiler room - In tunnel - Size and position of direct bilge suction in machinery spaces 1-2 1/2" STARBOARD
 Size and position of emergency bilge suction in machinery spaces 1-1" PORT SIDE
 In coal burning ships is a flexible bilge hose and connection provided? -
 Is the bilge or ballast system fitted with means for separating oily water on the overboard discharge side? No

Do the pumping arrangements comply with the Rules including special requirements for ships carrying petroleum in bulk, cargo oil classed for navigation in ice? (Strike out words not applicable)
YES

STEAM PIPES
 Material of main steam pipes STEEL Ext. dia. 5 1/2" Thickness 8 GAUGE How are flanges attached? WELDED AS PER RULES Material of valves and fittings for superheated steam -
 Are any aux. steam pipes for essential services over 3" bore? YES If so, what is the material? STEEL
 Are any saturated steam pipes fitted in the smoke boxes of cylindrical boilers? No.
 Hydraulic test pressure on steam pipes—main 400 PSIG. aux. 400 PSIG.

FEED SYSTEM
 Are all boilers provided with two separate means of feed? YES No. of pressure type feed heaters ONE
 No. of direct contact type feed heaters NONE No. of feed filters—Suction NONE Pressure TWO
 No. of condensers—main ONE Aux. NONE Is feed system of closed type? No No. of air ejectors ONE
 Cooling surface of main condensers 1521 SQ. FT. Material of condenser tubes COPPER NICKEL ALLOY, "YORCORON."

ELECTRIC GENERATOR ENGINES

Position of each	Prime Mover	Made by	Port and No. of Rpt. or Cert.	Output in kW.	Volts	Amps.
ENGINE ROOM (STARBOARD)	STEAM ENGINE	READERS	NOTTINGHAM C.33502L	25	220	114
ENGINE ROOM (STARBOARD)	DIESEL ENGINE	RUSTON & HORNSBY	NOTTINGHAM C.33133	25	220	113.5

Is electric current used for essential services at sea? No If so, state the minimum No. and capacity of generators required in order that the ship may operate at sea -

STEERING GEAR (State type and No. of steam engines, electric motors, hydraulic pumps and other particulars) TWO RAM HYDRAULIC STEERING GEAR OPERATED BY TELE MOTOR FROM BILGE. NEWCASTLE CERTIFICATE NO. C.72205

AIR COMPRESSORS AND RECEIVERS FOR ESSENTIAL SERVICES (State purpose, capacity, prime mover, position in ship and Port and No. of certificate) NONE

Have the Rule Requirements for fire extinguishing arrangements been complied with? YES Brief description of arrangements STEAM SMOOTHING, EXTENDED SPINDLES TO O.F. SUCTION & DISCHARGE VALVES, F.D. FAN AND OIL FUEL UNITS. FIRE MAIN WITH 4 INSTANT COUPLINGS ON DECK. FOAM FIRE EXTINGUISHING ARRG. CHEMICAL EXTINGUISHERS.

Has the spare gear required by the Rules been supplied? YES Has all the machinery been tried under full working conditions and found satisfactory? YES
 Date and duration of full-power sea trials of main engines 9/62 6 HOURS

Does this machinery installation contain any features of a novel or experimental nature? (State particulars) No

Is the installation a duplicate of a previous case? No If so, state name of vessel -

Date of approval of plans for main boilers 9/3/61 Aux. boilers NONE Donkey boilers NONE
 Shafting 9/3/61 Pumping arrangements 9/5/62 Oil fuel burning arrangements 9/5/62
 Separate oil fuel tanks NONE Boiler feed system 9/5/62

The foregoing description of the main engine and installation is correct and the particulars are as approved for torsional vibration characteristics (strike out words not applicable)

GENERAL REMARKS

State if the machinery has been constructed and/or installed under special survey in accordance with the Rules, approved plans and Secretary's letters. State quality of materials and workmanship and give recommendations for classification, including any special notation to be assigned. Where existing machinery is submitted for classification the circumstances should be explained as fully as possible.

THE MACHINERY OF THIS TUG HAS BEEN INSTALLED UNDER SPECIAL SURVEY IN ACCORDANCE WITH THE RULES OF THE SOCIETY, THE APPROVED PLANS AND SECRETARY'S LETTERS. THE MATERIAL AND WORKMANSHIP ARE GOOD.

THE MAIN AND AUXILIARY MACHINERY HAVE BEEN EXAMINED UNDER WORKING CONDITIONS AND FOUND SATISFACTORY.

THE MACHINERY IN MY OPINION IS ELIGIBLE TO BE CLASSED + LMC. 9/62 NOTATIONS FOR THE REGISTER BOOK TS(OG). ENGINES MADE 1962. FITTED 1962.

[Signature]

Engineer Surveyor to Lloyd's Register of Shipping.

PARTICULARS OF IDENTIFICATION MARKS (Including Port of origin) of important Forgings and Castings. (Copies of certificates should be forwarded with report.)

RODS CONNECTING RODS L 98 AK 12/7/62, ECCENTRIC RODS L 94 AK 12/7/62
PISTON RODS L 96 AK 12/7/61.

CRANK SHAFT PORT NO LR ME.11 AMC 9/4/62, STARBOARD NO LR ME.12 AMC 12/4/62.

THRUST SHAFT LR NO 3540 & 3541 WC 2/12/60

INTERMEDIATE SHAFTS NONE

SCREW AND TUBE SHAFTS (PORT) BEL 732 L 84 AMC 27/9/61 (STARBOARD) BEL 964 L 85 AMC 27/9/61 CAL.

PROPELLERS (PORT) THORNYCROFT E. 6311 LR 977 TLM 16/1/62 (STARBOARD) THORNYCROFT E. 6306 LR 980 TLM 16/1/62

OTHER IMPORTANT ITEMS PROPELLER SHAFT NUTS L 78 AMC; PROPELLER SHAFT COUPLINGS L 82 AMC

Dates of examination of principal parts:-

Fitting of stern tube	12/7/62	Fitting of propeller	19/7/62	Completion of sea connections	22/3/62	Alignment of crank shaft in main bearings	16/8/62
Engine checks & bolts	16/8/62	Alignment of straight shafting	22/8/62	Testing of pumping arrangements	10/9/62		
Oil fuel lines	1/8/62	Boiler supports	7/6/62	Steering machinery	10/9/62	Windlass	10/9/62

Date of Committee

Decision

+ LMC ES
MBS
TS(OG)
PAS
SPS
OF } 9.62

Special Survey Fee BUILDING Rs. 150
INSTALLATION Rs. 200

Expenses

Date when A/c rendered 5th November



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