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4 JAN 1960  
13679

Report No. 9  
Date of writing report 9/12/59  
Survey held at SINGAPORE  
Received London  
No. of sheets 16  
Port SINGAPORE  
Date 28/10/59  
Last date 8/10/59

# REPORT OF PERIODICAL SURVEYS & REPAIRS OF MACHINERY

Ship Name "DRUPA" (Registered)  
Owner SHELL PETROLEUM CO. LTD.  
Registered 8-1939 By MASCH, AUGSBURG-NURNBERG  
Type Oil Eng. 4 SA 8Cy.  
Port of Registry LONDON  
Date of build 8-1939  
Gross Tonnage 8102

Records of Surveys & Special Notations as per Register Book

Item	Date	Remarks
100AL oil tanker.	8/57	
LMC	8/57	
DBS	9/58	
TSCL	9/58N	
SS (Dr)	8/57	
SFS	8/57	

The condition of any of the following items to be described as "good" only when the part has been examined, found or placed in good condition, and is considered to be acceptable until the date of the next Periodical Examination. Where it is considered that re-examination or repairs should be effected before the due date of the next Periodical Examination a distinguishing mark thereon should be inserted against the item and the circumstances and action recommended described fully under "defects and repairs". At part or complete Special Surveys those items which are not applicable to the ship should be cancelled with a black line; this need not be done when the machinery is on a continuous survey basis. When any part has been subjected to pressure test this should be stated. Engine parts when referred to by numbers should be equated from forward.

DOCKING Propellers Good  
Wear Down of Stern Bushes Rewooded Close Fit  
Paintings Good  
Has Screwshaft Tubeshell been drawn? Yes  
Date of Examination 30/10/59  
Has Shaft been changed? No  
Has Shaft now fitted been previously used? Yes  
Has Shaft now examined/dated a continuous liner? Yes  
Approved oil gland? No

MAIN ENGINES PORT  
Cyls., Covers, Pistons & Rods Nos. 1, 2, 3, 4, 5, 6, 7, & 8 - Good.  
Valves & Gears Nos. 1, 2, 3, 4, 5, 6, 7 & 8 - Good.  
Connecting Rods, Side Nos. 1, 3, & 7 - Good.  
Top Ends & Guides Centre  
Crankpins & Bearings Side Nos. 1, 2, & 7 - Good  
Journals & Bearings Centre Nos. 1, 2, 3, 7 & 8 - Good.

MAIN ENGINE DRIVEN AIR COMPRESSORS  
Cyls., Covers, Pistons & Rods Good  
Connecting Rods & Top Ends Good  
Crankpins & Bearings IBC Ltd  
Journals & Bearings

MAIN ENGINE DRIVEN SCAVENGE PUMPS  
Cyls., Covers, Pistons & Rods Yes  
Connecting Rods & Top Ends None fitted  
Crankpins & Bearings  
Journals & Bearings  
Levers

SCAVENGE BLOWERS  
SUPERCHARGING Arrangements Nos. 3, 5, 6 & 7 - Good.  
MAIN TURBINES  
Casings, Covers, Blading, Bearings & Turbines

EXHAUST STEAM TURBINES (WITH REOP. ENGINES)  
STEAM COMPRESSORS  
CLUTCHES & HYDRAULIC COUPLINGS  
REDUCTION GEARING

THRUST BLOCKS, SHAFTS & BEARINGS  
INTERMEDIATE SHAFTS & BEARINGS  
HOLDING DOWN BOLTS & CROCKETS  
CONDENSERS (MAIN & AUX.)  
STEAM RE-HEATERS  
DE-SUPERHEATERS  
STOP & MANOEUVRING VALVES

MAIN ENGINE DRIVEN PUMPS Sanitary Pump - Good.  
CRANKCASE DOORS & EXPLOSION RELIEF DEVICES

OPINION OF MACHINERY AND RECOMMENDATIONS The machinery of this vessel, so far as now seen, is in safe working condition and eligible in my opinion, to remain as classed with fresh records of TSCL 10/59 and ABS 12/59 now and CS (with date) when the survey has been completed subject to Main Engine Nos. 3 and 7 cylinder covers (Metalock repaired in way exhaust valve pockets) being re-examined by the end of June, 1960 (6 mns limit).

Date of Committee TUESDAY 19 JAN 1960  
Decision As now subject  
TSCL 10/59 ABS 12/59

This is a Survey of the hull of the ship. It is not a survey of the machinery, and should not be taken into account when the machinery is surveyed.

If certificate is required state where to be sent.

Not for Header

32 Essential Independent Pumps (Identify by position) **Aft Feed Pump - Good. Aft F.O. Pump - Good. Diesel Oil Transfer Pump - Good. H.V.F. Transfer Pump - Good. Fuel valve Cooling Pump - Good.**

33 Bilge, Ballast & Oil Fuel Suction Lines, Fittings & Controls

34 Have the remaining Piping Arrangements & Fittings in the machinery space been examined as considered necessary?

35 Fresh Water Coolers **P.C.W. - Good (Tested)** Lub. Oil Coolers **Good (Tested)** 37 Heaters (state service) **Forward & Aft H.V.F. - Good (Tested)**

38 Independent Air Compressors, Coolers & Safety Devices **Diesel driven - Good.**

39 Air Receivers & Safety devices - Main **Upper - Good.** 40 Auxiliary

41 Oil Fuel Tanks (Not forming part of hull structure)

42 Evaporators 43 Have Evaporator Safety Valves been tested under steam?

44 Steering Machinery 45 Windlass 46 Fire Extinguishing Arrangements

AUXILIARY ENGINES (Identify by position) **Air Compressor Diesel Engine - Good. Diesel generator engine - Good.**

PROPULSION		ELECTRICAL EQUIPMENT	
PORT	STARBOARD	PORT	STARBOARD
Generators		Generators & Governors	
Exciters		Motors	
Air Coolers		Switchboards & Fittings	
Motors		Circuit Breakers	
Air Coolers		Cables	
Control Gear, Cables, etc.		Insulation Resistance	
Insulation Resistance		Steering Gear Generators and Motors	
Insulating Oil Test		Navigation Light Indicators	
Over-speed Governors			
Magnetic Couplings			
Air Gap			

BOILERS OPENED UP & EXAMINED (Identify by position and state latest date of internal examination of each boiler)

MAIN AUXILIARY **7/11/59 - Good**

Superheaters **None Fitted**

Safety Valves **Good**

Mountings, Doors & Fastenings **Good**

Safety Valves Adjusted to Sat. **180 lbs.**

Spt.

Boiler Securing Arrangements **Good.**

Main Economisers Exhaust Gas Heated Economisers

Steam Heated Steam Generators Steam Generator Safety Valves Adjusted to **Yes** Forced Circulating Pumps

Were Oil Burning System & Remote Controls examined working in accordance with Rules? **Yes**

Have Saturated Steam Pipes in cylindrical boiler smoke boxes been examined as required by Rules? **None Fitted** Funnel **Good.**

EXAMINATION & TESTING OF STEAM PIPES (State material)

Main Auxiliary (over 3 in. bore)

Were Copper Pipes annealed? Have Saturated Pipes in cylindrical boiler smoke boxes been tested?

PARTICULARS OF DEFECTS & REPAIRS, ETC. (Damage repairs should be detailed separate from wear and tear repairs; state what action has been taken regarding items which are subjects of class)

**Repairs (Wear and Tear)**

**Screw shaft & Stern bush** Screw shaft liner slightly tapered, now machined true and stern bush rewooded to close fit.

**Main Engine** No. 2 cylinder liner in excess of maximum wear limits and several fractures apparent at approximately mid-height. Previously used liner, within wear limits, together with extension piece now fitted.

No. 3 cylinder cover fractured in way of exhaust valve pocket, fracture now repaired by Metalock and cover refitted. It is therefore recommended No. 3 cylinder cover be re-examined by end of June, 1960 (6 mos limit).

No. 4 cylinder liner in excess of maximum wear limits, new liner, extension piece and cover now fitted, stamping particulars as follows:-  
 Cover - L.R. P4203 Lloyds No. 36081 Nwc W.T. 75 lbs. 19-3-59.  
 Liner - Tested 70 Kg. 24-6-59.  
 Extension piece - Lloyds No. 19114 Test 35 lbs.

Cont. Sheet 2

CS	\$650
TSOL	\$150
ABS	\$120
Repairs	\$125
Damage fee	
Expenses	\$ 25

Date when A/c rendered **28/12/59**

**M.V. "DRUPA" Sheet 2.**

No. 5 liner in excess of maximum wear limits and fracture apparent at approximately mid-height. Previously used liner together with extension piece and within wear limits, now fitted.

No. 6 cylinder liner in excess of maximum wear limits. Previously used liner, together with extension piece, and within wear limits, now fitted.

No. 7 cylinder liner in excess of maximum limits. Previously used spare liner and extension piece, within wear limits, now fitted. Cylinder cover fractured in way of exhaust valve pocket, fracture now repaired by Metalock. Spigot fitting on bottom of cover wasted and partially broken away. Spigot now machined away completely and steel spigot plate made and fitted, the plate being secured to cover by counter sunk head screws. Before fitting steel plate, a light jointing material was fitted between base of cover and steel spigot plate and repair found satisfactory under working conditions. (see attached Drawing No. E 475 for detail of repair). It is recommended the Metalock repair to this cover be re-examined by the end of June, 1960 (6 mos limit).

No. 8 cylinder liner in excess of maximum wear limits, liner and cylinder cover now renewed. Stampings noted as follows:-

Liner - Lloyds No. 19125 29-12-49.  
 Cover - L.R. P4165 Lloyds No. 36080 Nwc W.T. 75 lbs 9-3-59.

The metal of the cylinder blocks of all units, in way of spigot recess, was found graphitised and broken away to a varying degree in each case. All cylinder blocks have now been machined to good metal and good quality cast iron rings made by the Singapore Harbour Board and satisfactorily fitted as per attached Drawing No. E /475. On completion all repairs were examined under working conditions and found satisfactory. It is submitted this repair be accepted as permanent, as the work and time involved to effect subsequent examination would be considerable.

All pistons and piston rod palm coupling faces pitted to varying extent in way of telescopic pipe, all now machined true and satisfactorily refitted.

No. 1 unit top end bearings metal cracked and loose, bearings now remetalled and satisfactorily refitted.

No. 2 unit crankpin bearing bolts appeared slightly stretched, spare bolts now fitted.

No. 3 unit top end bearings metal cracked and loose, bearings remetalled and satisfactorily refitted.

No. 7 unit top end bearings metal cracked and loose, bearings remetalled and refitted. Crosshead pins severely ridged, pins now machined true.

Attached Sanitary Pump Scrolls severely worn, now renewed.

Aft Fuel Oil Pump Steam cylinder ridged and tapered, cylinder now machined and new piston fitted.

H.V.F. Transfer Pump Bucket rods severely worn, now renewed.

Fuel Valve Cooling Pump Stator, rotor and driving shaft and bearings severely worn, all now renewed.

Auxiliary Boiler A total of 17 wasted combustion chamber partition stays renewed. Other minor wear and tear repairs effected.

