

20 APR 1960

/NK Rpt. 9 19 APR 1960

Date of writing report 14.4.60. Received London Post NEWCASTLE UPON TYNE No. 116968
Survey held at NORTH SHIELDS No. of visits 10 First date 11.3.60. Last date 7.4.60.

REPORT OF PERIODICAL SURVEYS & REPAIRS OF MACHINERY

No. in R.B. 02892 Name ^{G.T.S.} "AURIS" Gross tons 8269 Date of build 4-1948
Owners Shell Petroleum Co. Ltd. Managers - Part of Registry London

Engines made 8-59 By British Thompson Houston Ltd. Type Gas turbine DR geared hydraulic clutch
No. of Main Engines 1 No. of Screws 1
No. of Main Boilers - W.P. -

Records of Survey & Special Notations as per Register Book

Hull	Machinery
+100A1 oil tanker	+ LMC + NE 8-59 A 4.59 NA (WT) 8.59 CL 8-59 sps 4-58

No. of Aux. Boilers 2 W.P. 180 lb.
Surveyed Afloat or in Dry Dock Both
Nature of Survey Part C.S., A.B.S., Repairs
Was Damage Report issued? No Int. Cert.? Yes
Last Report (For Head Office only)

Now The condition of any of the following items is 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 due 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 thus † 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 counted from forward.

DOCKING Propellers Good Wear Down of Stern Bushes 3/32" Oil Glands _____ Sea Connections _____
Fastenings Good Has Screwshaft ~~been~~ been drawn? No Date of Examination _____ Has Shaft been changed? _____
Has Shaft now fitted been previously used? _____ Has Shaft now examined/fitted a continuous liner? _____ Approved oil gland? _____

MAIN ENGINES (Recip. Steam or I.C.)

	PORT	STARBOARD
1 Cyls., Covers, Pistons & Rods	_____	_____
2 Valves & Gears	_____	_____
3 Connecting Rods, Top Ends & Guides	Side _____ Centre _____	_____
4 Crankpins & Bearings	Side _____ Centre _____	_____
5 Journals & Bearings	_____	_____

MAIN ENGINE DRIVEN AIR COMPRESSORS

6 Cyls., Covers, Pistons & Rods _____
7 Connecting Rods & Top Ends _____
8 Crankpins & Bearings _____
9 Journals & Bearings _____
10 Couplers & Safety Devices _____

MAIN ENGINE DRIVEN SCAVENGE PUMPS

11 Cyls., Covers, Pistons & Rods _____
12 Connecting Rods & Top Ends _____
13 Crankpins & Bearings _____
14 Journals & Bearings _____
15 Levers _____

SCAVENGE BLOWERS
16 _____

SUPERCHARGERS
17 _____

MAIN TURBINES

18 Casings, Rotors, Blading, Bearings & Thrusts H.P.*

19 EXHAUST STEAM TURBINES (WITH RECIP. ENGINES) _____
20 STEAM COMPRESSORS _____
21 CLUTCHES & HYDRAULIC COUPLINGS _____
22 REDUCTION GEARING _____
23 THRUST BLOCKS, SHAFTS & BEARINGS _____
24 INTERMEDIATE SHAFTS & BEARINGS _____
25 HOLDING DOWN BOLTS & CHOCKS _____
26 CONDENSERS (MAIN & AUX.) _____
27 STEAM RE-HEATERS _____
28 DE-SUPERHEATERS _____
29 STOP & MANOEUVRING VALVES _____
30 MAIN ENGINE DRIVEN PUMPS _____

31 CRANKCASE DOORS & EXPLOSION RELIEF DEVICES _____ Have Main Engines been tested working and manoeuvring? Yes

OPINION OF MACHINERY AND RECOMMENDATIONS
The machinery of this vessel, so far as now seen is in safe working condition and eligible in our opinion to remain as now classed with fresh record of ABS (Scotch) 4.60 (vessel laid up pending fabrication and fitting of redesigned diffuser plate).

Date of Committee MONDAY 13 JUN 1960
Decision As now subject ABS (Scotch) 4.60

C.R. Rowcliffe R.P. Frazer
Engine Surveyor to Lloyd's Register of Shipping
C.R. Rowcliffe. R.P. FRAZER.



If any of the equipment listed above, or when used, will be used...

If certificate is required state where to be sent.

32 Essential Independent Pumps (Identify by position) Frd. (No.1) L.O. 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 36 Lub. Oil Coolers Frd. - Good (tested) 37 Heaters (state service)

38 Independent Air Compressors, Coolers & Safety Devices

39 Air Receivers & Safety devices—Main 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)

PROPULSION		ELECTRICAL EQUIPMENT	
PORT	STARBOARD	PORT	STARBOARD
a Generators			1 Generators & Governors
b Exciters			m Motors
c Air Coolers			n Switchboards & Fittings
d Motors			o Circuit Breakers
e Air Coolers			p Cables
f Control Gear, Cables, etc.			q Insulation Resistance
g Insulation Resistance			r Steering Gear Generators and Motors
A Insulating Oil Test			s Navigation Light Indicators
i Overspeed Governors			
j Magnetic Couplings			
k Air Gap			

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

~~XXXX~~ **AUXILIARY, DUBOY TOURNEUX** Scotch - Good
1.4.60.

Superheaters Scotch Good

Safety Valves Scotch Good

Mountings, Doors & Fastenings Scotch 180 lb.

Safety Valves Adjusted to { Set
Spt Scotch - Good

Boiler Securing Arrangements Exhaust & Heated Economisers

Main Economisers Exhaust & Heated Economisers

Steam Heated Steam Generators Steam Generator Safety Valves Adjusted to

Were Oil Burning System & Remote Controls examined working in accordance with Rules? Yes Good Forced Circulating Pumps

Have Saturated Steam Pipes in cylindrical boiler smoke boxes been examined as required by Rules? 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)

*H.P. turbines:- At Owners request it was agreed to examine the H.P. turbine without lifting the top casing. The inlet blades were examined by entering the combustion chamber and sighting through the inlet scroll plate. The outlet blades were examined by removing the flame tubes connecting H.P. to L.P. turbine. All blades as seen were in good condition with a slight deposit over surfaces. Three slight thermal surface fractures found in way of inlet scroll plate. It is considered that these do not affect the strength of the scroll plate. It is considered that the H.P. turbine may be credited towards the C.S. cycle.

L.P. Compressor:- The L.P. compressor was opened out to fit strain gauges to the blades. It was found that one fixed blade in the present last row was broken off at its root. (The 11th and 12th rows had been previously removed due to failure of the compressor rotor blades)
The remaining blades in this row were crack detected and found sound. It was decided to leave the fitting of a new blade until the strain gauge tests were completed.

Continued ...



LEAVE THIS SPACE BLANK

Survey fees Part C.S. £25-0-0
A.B.S. £8.0.0.

Damage fee ...

Expenses ...

Date when A/c rendered 19 APR 1960

20 APR 1960

Port of NEWCASTLE-ON-TYNE.

Continuation of ~~Ship~~/Mchy. Report No.

dated

G.T.S.
on the ~~SS. "AURIS"~~ "AURIS"

It was stated by the Owners and makers representatives that the failure of this blade and the previous failure of the 11th and 12th rows may have been caused by vibrations imposed on these blades by the outlet diffuser plate. Engine trials were subsequently held and in the Makers and Owners opinion, the instrument readings taken show that the diffuser plate is affecting the last row of compressor blades. The vessel has now been laid up at Tyne Dock until a modified diffuser has been made, this will take about one month. The Owners state drawings of the new part will be sent to the Society's London Office.

WASTE HEAT BOILER: Stated tubes have been vibrating in service.

A flat bar has been welded to top row to prevent further vibration. Boiler tested and found tight.

H.P. Turbine Clearances.

Stage One

Top 0.087"

Above horizontal joint 0.063"

Below " " 0.060

Bottom 0.084

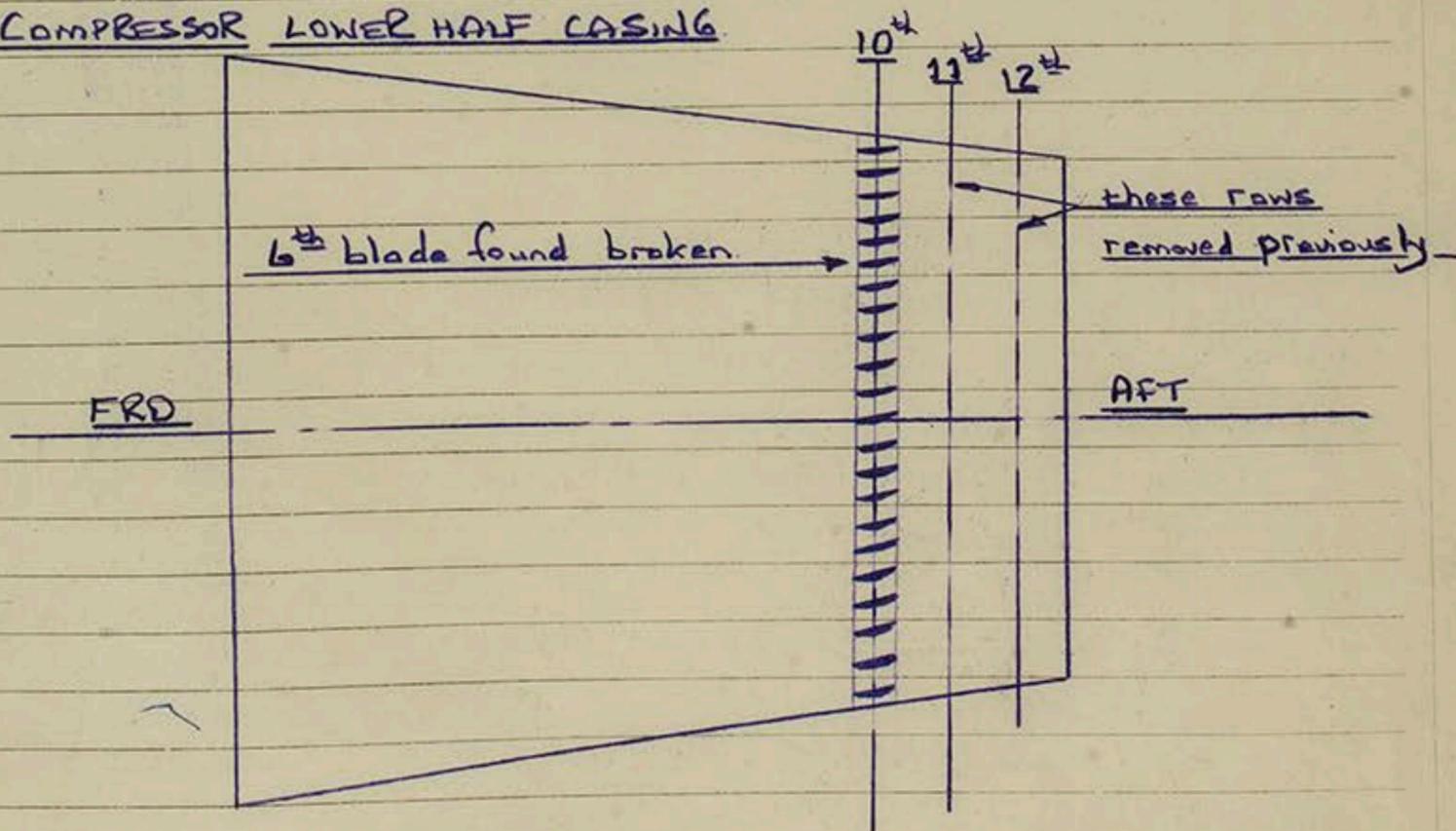
Stage Five

Top 0.060"

Port 0.075"

Star. 0.035"

L.P. COMPRESSOR LOWER HALF CASING



R. P. J. J. J.

