

Vessel:	XXXXXXXXXX	Machinery:	MAIN ENGINE PORT
IMO Number:	XXXXXXXXXX	Manufacturer:	MTU
Company:	XXXXXXXXXX	Model/Serial No:	595TE70/XXXXXX
		Oil Grade:	SHELL RIMULA R3 X 15W-40
		Oil Volume Litres:	1000
		Fuel Grade:	MGO

Sequential Results	5	6	7	8	9	10	Current		
Date Sampled	17-Feb-11	07-Sep-11	18-Jan-12	01-Jun-12	18-Sep-12	07-Jan-13	22-Apr-13		
Sampling Point	Main Sys	Main Sys	Main Sys	Main Sys	Main Sys	Main Sys	Main Sys		
Date Received	17-Jun-11	12-Oct-11	07-Feb-12	07-Jun-12	24-Sep-12	14-Jan-13	29-Apr-13		
Dispatched From	Not Stated	Not Stated	Not Stated	Not Stated	Not Stated	Not Stated	Not Stated		
Unit Service Hours	1955	1469	2850	3470	3990	4686	4686		
Oil Service Hours	Not Stated	Not Stated	Not Stated	Not Stated	Not Stated	397	397		
Make Up (litres)/24 hrs	Not Stated	Not Stated	Not Stated	Not Stated	Not Stated	Not Stated	Not Stated		

Analysis								New Oil	Engine
Appearance	Opaque	Opaque	Opaque	Opaque	Opaque	Opaque	Opaque		
K Viscosity at 40°C cSt	105	100	101	103	96	103	101	105.1	
K Viscosity at 100°C cSt	14.00	13.20	13.89	13.99	13.24	13.93	13.59	14.3	10.5-19.0
Flash Point °C	>200	>200	>200	>200	>200	>200	>200	230	>190
Water % Vol	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		<0.2%
Soot/Insolubles %	<0.1	<0.1	0.1	<0.1	0.1	<0.1	<0.1		<3.0%
Base Number	10.4	9.1	10.2	11.1	10.5	10.6	9.6	10.8	>50%

Elemental Analysis ppm									
Barium	<1	1	1	<1	<1	<1	<1		
Calcium	3661	3951	4287	3255	3635	3500	3696		
Magnesium	12	11	12	9	9	9	9		
Phosphorus	978	935	989	899	939	905	975		
Zinc	1169	1247	1304	1097	1191	1067	1214		
Boron	224	221	270	161	147	280	250		
Sodium	<1	3	5	1	<1	<1	3		
Silicon	3	3	5	2	2	1	3		
Lithium	<1	<1	<1	<1	<1	<1	<1		
Aluminium	<1	3	4	1	1	2	2		
Chromium	<1	1	1	<1	1	<1	1		
Copper	8	11	14	3	10	4	9		
Iron	6	8	11	3	7	3	7		
Lead	<1	1	1	<1	2	1	1		
Tin	1	2	1	<1	1	<1	1		
Molybdenum	22	27	40	18	20	29	32		
Nickel	<1	<1	<1	<1	<1	<1	<1		
Titanium	<1	<1	<1	<1	<1	<1	<1		
Silver	<1	<1	<1	<1	<1	<1	<1		
Manganese	1	2	1	<1	1	<1	1		
Vanadium	<1	<1	<1	<1	<1	<1	<1		
PQ Index/2ml	<10	<10	<10	<10	<10	<10	<10		

Oil/Unit Rating	A/A	A/A	A/A	A/A	A/A	A/A	A/A		
A = Suitable for Further Service B = Alert Level C = Remedial Action Required D = Unsuited Charge									

Oil Rating: The current sample shows the oil to be in a satisfactory condition with negligible levels of both water and soot/insolubles. The viscosity is close to the new oil value and the oil contains an adequate reserve of alkalinity (base number). The oil is suitable for continued service.

Unit Rating: Elemental analysis of the wear and contaminant elements shows these to be remaining at very low levels. There is no evidence to indicate that any undue wear is occurring within the port main engine. The elements calcium through to zinc are lubricant additives.

Report Date: 3rd May 2013

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