

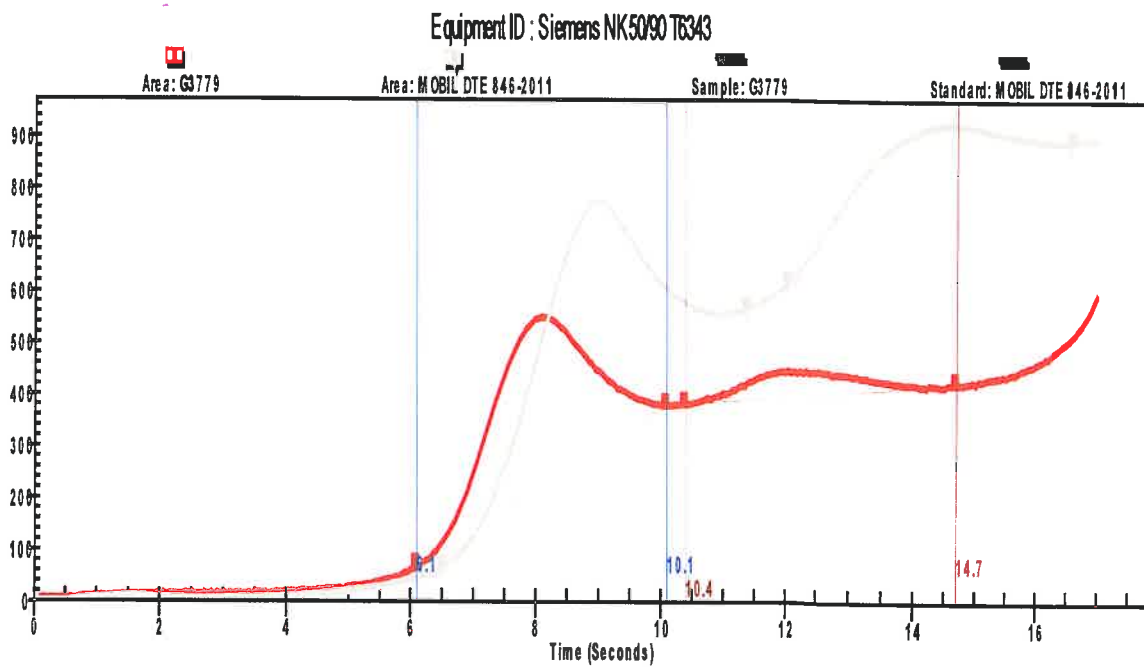
	Sample Identification FOA1227	Lims N° G3779	 Steam Turbine Siemens NK50/90 T6343 Mobil DTE 846
			



Laboratory Report

Acc.-No. Fluitec N.V. Rijnkaai 37 België 2000 Antwerpen	Equipment No. LG858 Israel - Steam Turbine Siemens NK50/90 T6343 Mobil DTE 846	Eqp. No. - Cust. Steam Turbine Quantity 12 L
---	--	---

Comments



Visual aspect: dark yellow coloured oil, clear and bright, without visual foreign matter.
 This sample contains no significant amount of water: 20 ppm.
 The kinematic viscosity @40°C hardly changed, 43.29 mm²/s complies with the mentioned ISO VG46 specification limit.
 The oil's acid number: 0.30 mgKOH/g can be considered as acceptable.
 ICP spectrometry results for the wear elements and silicon show no abnormal values.
 The oil's cleanliness level has improved, ISO 17/15/12 is excellent.
 The gravimetric pollution is very low: 1.4 mg/100ml.
 The air release result is in line with previous finding, 2.5 minutes is excellent still.
 The aminic antioxidant level has decreased, 66.3 % remains well above the 25% alert level, compared to the reference oil.
 With a Membrane Patch Colorimetry (MPC) at 5.5 CIE, the propensity of the oil to generate varnish can further be diagnosed as class 1 (normal).

Based on the current findings, we can consider the overall condition as **NORMAL**.
 Continue the regular maintenance actions for this unit and monitor closely for any deterioration.

08/11/2013 | Nathalie De Vlam

	G3779 ✓	G2409 ✓	G1777 ✓	G1554 ✓	G1305 !
Product No.	Mobil DTE 846 FOA1227	Mobil DTE 846	Mobil DTE 846	MOBIL DTE 846	MOBIL DTE 846
Sample taken	05/11/2013	29/05/2013	18/11/2012	18/11/2012	20/08/2012
Arrival Date	06/11/2013	03/06/2013	26/02/2013	23/11/2012	24/08/2012
Hours Oil		19400 h	19400 h	17400 h	17400 h/km
Hours Machine	40030 h 2200 h	36550 h 2200 h	36550 h	34500 h 200 h	33640 h/km 200 h/km
Colour [-] ASTM-D1500	2.5	2.5	2.5	2.5	2.5
Visual appearance [-] Intern	clear	clear	clear	clear	clear
Determination of water (KF) [ppm] ASTM-D6304	20	11	10	13	20
Kinematic Viscosity @40°C [mm ² /s] ASTM-D445	43.29	43.21	43.26	43.31	43.21
Acid Number (AN) [mg KOH/g] ASTM-D664	0.30	0.10	0.16	0.03	0.28
Microfiltration 0.45 µm [mg/100 mL] ASTM-D4898	1.4	5.6	6.9	1.6	3.3
Particles (>4 µm) [#/mL] ISO 4406-2	765.630	2,480.700	1,015.000	7,136.000	8,678.300
Particles (>6 µm) [#/mL] ISO 4406-2	215.630	632.870	269.250	923.750	1,213.600

Whilst every care is taken in the preparation of this report, it is given on the understanding that we accept no liability for any error or omission.

Laboratory Report

Acc.-No.

Equipment No. LG858

 Israel - Steam Turbine

	G3779	G2409	G1777	G1554	G1305
Particles (>14 µm) [#/mL] ISO 4406-2	27.375	36.750	16.500	77.875	66.625
Automatic Particle Counting - ISO [Class] ISO 4406-2	17/15/12	18/16/12	17/15/11	20/17/13	20/17/13
Air Release [min.] DIN ISO 9120	2.5	2.2	2.0	2.2	1.8
Aminic antioxidant [%] ASTM-D6971	66.3	92.6	90.1	92.8	90
Phenolic antioxidant [%] ASTM-D6971	21.8	43.1	45.2	16.6	37.1
MPC - Index (Delta E) [None] ASTM-D7843	5.50	4.20	5.90	8.14	7.30
MPC - a (red value) [None] ASTM-D7843	-0.6	-0.3	-1.0	-0.09	-0.7
MPC - b (yellow value) [None] ASTM-D7843	5.2	3.6	5.4	6.96	5.4
MPC - Luminescence [None] ASTM-D7843	98	99	98	96	95
Aluminium [ppm] ASTM-D5185	0	0	0	0	0
Chromium [ppm] ASTM-D5185	0	0	0	0	0
Copper [ppm] ASTM-D5185	0	0	0	0	0
Iron [ppm] ASTM-D5185	0	0	0	0	0
Nickel [ppm] ASTM-D5185	0	0	0	0	0
Lead [ppm] ASTM-D5185	0	0	1	3	0
Silicon [ppm] ASTM-D5185	0	0	1	2	1
Tin [ppm] ASTM-D5185	0	0	0	0	0
Zinc [ppm] ASTM-D5185	3	0	0	1	0

Whilst every care is taken in the preparation of this report, it is given on the understanding that we accept no liability for any error or omission.

BP Europa SE - BP Belgium, BP Condition Monitoring, Langerbruggekaai 18, B 9000 Gent