TelLab

Demo

Location:	Main > Demo
Unit ID:	**# 17379**
Model:	Vestas - V47
Machine Type:	Turbine, Wind

High iron level suggests possible gear/shaft wear present. Check for signs of excess wear or vibration.
Viscosity is not consistent with the stated grade.
Advise : Change oil if not changed when oil sample was taken.
Re-sample at next service interval.

KR, 23 Sep 2015

Oil Castrol Alpha SP320

Note:

Sample ID	4B9390 (P9970)	3F3162 (N11567)	369F63 (N3297)	21F680 (L11816)	1954F2 (L4014)
Sampled on	n.a.	15 Sep 2014	13 Mar 2014	29 Oct 2012	16 Apr 2012
Received on	18 Sep 2015	07 Nov 2014	02 Apr 2014	01 Nov 2012	19 Apr 2012
h Total					
h Oil					
Top up (l.)					

			Warning Limits					
ASTM D6595-00 WEAR METALS	Iron	ppm	50	59	22	12	67	25
	Chromium	ppm	5	<1	<1	<1	1	<1
	Nickel	ppm		<1	<1	<1	<1	<1
	Molybdenum	ppm		2	<1	2	<1	<1
	Aluminium	ppm	5	<1	<1	<1	<1	<1
	Lead	ppm	5	<1	<1	<1	<1	<1
	Copper	ppm	5	<1	<1	<1	3	1
	Tin	ppm	5	<1	<1	<1	<1	<1
	Silver	ppm		<1	<1	<1	<1	<1
	Titanium	ppm		<1	<1	<1	<1	<1
ASTM D6595-00 CONTAMINANTS	Silicon	ppm	10	<1	<1	<1	4	2
	Sodium	ppm		4	2	1	2	2
	Vanadium	ppm		<1	<1	<1	<1	<1
ASTM D6595-00 ADDITIVES	Calcium	ppm		5	6	7	5	7
	Magnesium	ppm		<1	<1	<1	<1	<1
	Phosphorus	ppm		193	161	226	250	147
	Zinc	ppm		8	5	4	8	5
	Barium	ppm		<1	<1	<1	<1	<1
	Boron	ppm		4	3	2	2	1
ASTM D445	Viscosity at 40°C	cSt	288 - 352	362	346	330	346	321
LaserNet Fines	ISO(>4Âµm)			21	24	22	22	22
	ISO(>6Âµm)			20	22	21	20	20
	ISO(>14Âµm)			16	17	17	16	16
	ISO 4406/99 Code			21/20/16	24/22/17	22/21/17	22/20/16	22/20/16
	Particles >4Âµm	part./ml		11566	119539	34238	39981	22387
	Particles >6Âµm	part./ml		5207	22828	15039	9612	9179
	Particles >14Âµm	part./ml		350	953	1296	428	337
	NAS 1638 Code			11	12	12	12	12
	Cutting	part./ml		9.7	166.1	19.5	4.9	12.5
	Sliding	part./ml		24.4	249.1	9.7	34.1	12.5
	Fatigue	part./ml		14.6	34.2	19.5	43.8	0.0
	Non metallic	part./ml		311.7	634.9	701.3	330.9	254.5
	Fiber count	part./ml		4.9	122.1	0.0	0.0	0.0
ASTM E2412	TAN	mg KOH/g	3.50	1.21	0.14	0.54	0.73	<0.10
	Water	ppm	500.0	324.0	107.9	148.4	170.8	133.9
	OX	abs/mm2		4.4	3.3	2.7	3.9	3.0

Date 07 Oct 2015

Demo

Unit ID:	**# 17379**
Model:	Vestas - V47
Machine Type:	Turbine, Wind

Sample ID	4B9390 (P9970)
Sampled on	n.a.
Received on	18 Sep 2015

Particle analysis and shape classification with LaserNet Fines-C
Method: LaserNet Fines. Analysis refers to particles >= 20 ?m

Cutting particle count

(Possible causes: hard particles contamination giving surface engraving)

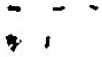
Scale 63:1
(1 cm equals to 158 µm)

9.7 part./ml

Sliding particle count

(Possible causes: contact between metallic surfaces, high loads, insufficient lubrication)

Scale 63:1
(1 cm equals to 158 µm)



24.4 part./ml

Fatigue particle count

(Possible causes: overload, vibrations, mechanical shocks, long drain interval)

Scale 63:1
(1 cm equals to 158 µm)

14.6 part./ml

Demo

Unit ID:	**# 17379**
Model:	Vestas - V47
Machine Type:	Turbine, Wind

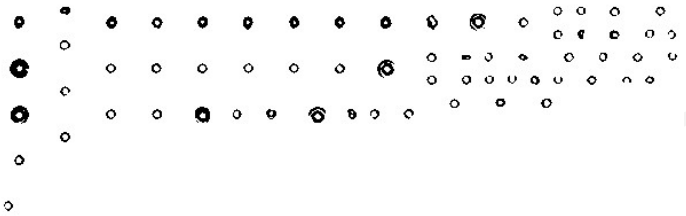
Sample ID	4B9390 (P9970)
Sampled on	n.a.
Received on	18 Sep 2015

Particle analysis and shape classification with LaserNet Fines-C
Method: LaserNet Fines. Analysis refers to particles >= 20 ?m

Non metallic particle count

(Oxides, crystals, amorphous material, tribopolymers and other solid contaminants)

Scale 63:1
(1 cm equals to 158 µm)

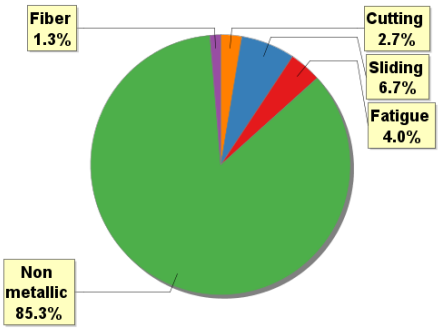


311.7 part./ml

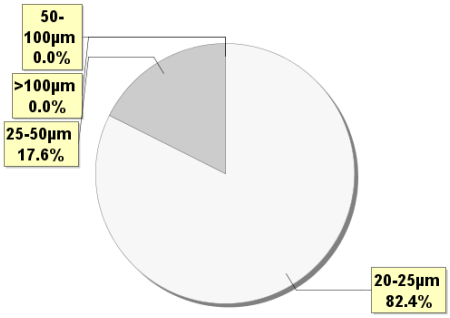
Fiber count

Scale 63:1
(1 cm equals to 158 µm)

4.9 part./ml



Shape classification



Size distribution