

# TellLab

### Demo

Location: Demo turbine  
 Unit ID: **G3 Turbine Bearing**  
 Model:  
 Machine Type: Turbine



High tin level indicating wear present. Advice: Re-sample at the next service intervention.

KR, 24 Jul 2015

Oil Gulf Hyd T68

Sample ID

Note:

Sampled on  
 Received on  
 h Total  
 h Oil  
 Top up (l.)

490F3B  
(P7655)

444658  
(P3195)

4395A9  
(P2525)

40EE20  
(N13167)

40EDA6  
(N13166)

08 Jun 2015  
22 Jul 2015

12 Mar 2015  
27 Mar 2015

06 Mar 2015  
09 Mar 2015

17 Dec 2014  
19 Dec 2014

16 Dec 2014  
19 Dec 2014

Warning Limits



			490F3B (P7655)	444658 (P3195)	4395A9 (P2525)	40EE20 (N13167)	40EDA6 (N13166)
ASTM D6595-00 WEAR METALS	Iron	ppm	5	<1	9	11	11
	Chromium	ppm	<1	<1	<1	<1	<1
	Nickel	ppm	<1	<1	<1	<1	<1
	Molybdenum	ppm	<1	<1	<1	<1	<1
	Aluminium	ppm	<1	<1	<1	<1	<1
	Lead	ppm	<1	<1	<1	1	1
	Copper	ppm	1	<1	2	2	2
	Tin	ppm	31	<1	64	69	68
	Silver	ppm	<1	<1	<1	<1	<1
	Titanium	ppm	<1	<1	<1	<1	<1
	ASTM D6595-00 CONTAMINANTS	Silicon	ppm	1	<1	1	1
Sodium		ppm	1	1	<1	<1	<1
Vanadium		ppm	<1	<1	<1	<1	<1
ASTM D6595-00 ADDITIVES	Calcium	ppm	4	<1	10	10	10
	Magnesium	ppm	<1	<1	<1	<1	<1
	Phosphorus	ppm	<1	<1	<1	<1	<1
	Zinc	ppm	3	1	5	5	5
	Barium	ppm	<1	<1	<1	<1	<1
	Boron	ppm	<1	<1	<1	<1	<1
ASTM D445	Viscosity at 40°C	cSt	71	65	75	73	75
LaserNet Fines	ISO(>4Åµm)		19	15	19	21	20
	ISO(>6Åµm)		17	13	17	18	18
	ISO(>14Åµm)		14	9	11	14	13
	ISO 4406/99 Code		19/17/14	15/13/9	19/17/11	21/18/14	20/18/13
	Particles >4Åµm	part./ml	3560	235	3785	11573	8834
	Particles >6Åµm	part./ml	792	49	711	1621	1406
	Particles >14Åµm	part./ml	134	4	13	111	70
	NAS 1638 Code		9	9	9	10	10
	Cutting	part./ml	29.3	20.9	12.5	12.5	4.2
	Sliding	part./ml	83.6	0.0	8.3	37.6	29.2
	Fatigue	part./ml	16.7	0.0	0.0	12.5	12.5
	Non metallic	part./ml	83.6	8.3	8.3	50.1	41.7
	Fiber count	part./ml	37.6	8.3	8.3	4.2	0.0
	ASTM E2412	TAN	mg KOH/g	0.53	0.56	0.22	0.11
Water		ppm	56.9	54.5	119.6	45.5	77.5
OX		abs/mm2	2.6	3.1			
	Judgment				Normal	Normal	

Date 07 Oct 2015



<b>Demo</b>	
Unit ID:	<b>G3 Turbine Bearing</b>
Model:	
Machine Type:	Turbine

Sample ID	490F3B (P7655)
Sampled on	08 Jun 2015
Received on	22 Jul 2015

**Particle analysis and shape classification with LaserNet Fines-C**  
Method: LaserNet Fines. Analysis refers to particles  $\geq 20 \mu\text{m}$

**Cutting particle count**

(Possible causes: hard particles contamination giving surface engraving)

Scale 63:1  
(1 cm equals to 158  $\mu\text{m}$ )

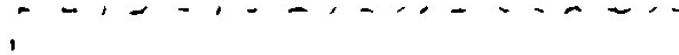


29.3 part./ml

**Sliding particle count**

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

Scale 63:1  
(1 cm equals to 158  $\mu\text{m}$ )



83.6 part./ml

**Fatigue particle count**

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

Scale 63:1  
(1 cm equals to 158  $\mu\text{m}$ )



16.7 part./ml



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Unit ID: **G3 Turbine Bearing**  
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 Machine Type: Turbine

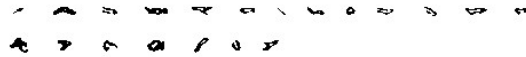
Sample ID: 490F3B (P7655)  
 Sampled on: 08 Jun 2015  
 Received on: 22 Jul 2015

**Particle analysis and shape classification with LaserNet Fines-C**  
 Method: LaserNet Fines. Analysis refers to particles  $\geq 20 \mu\text{m}$

**Non metallic particle count**

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

Scale 63:1  
 (1 cm equals to 158  $\mu\text{m}$ )



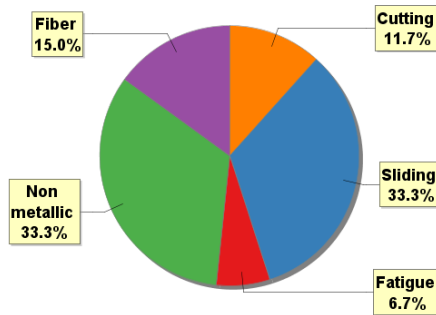
83.6 part./ml

**Fiber count**

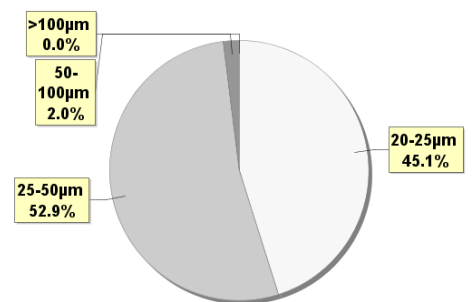
Scale 63:1  
 (1 cm equals to 158  $\mu\text{m}$ )



37.6 part./ml



Shape classification



Size distribution